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LITIGATING TIME IN AMERICA AT THE TURN OF THE TWENTIETH CENTURY

*Jenni Parrish**

"We are born in haste, . . . we finish our education on the run; we marry on the wing; we make a fortune at a stroke, and lose it in the same manner. . . . Our body is a locomotive, going at the rate of twenty-five miles an hour; our soul, a high-pressure engine; our life a shooting star, and death overtakes us at last like a flash of lightening."

—Michel Chevalier (1839)¹

I. INTRODUCTION

A recent New York Times review of the popular television show "24" begins by calling it "one of the most interesting new shows to appear on television in a long time."² It goes on to criticize the acting as "terrible," the writing as "uninspired," and the directing "ranges from perverse to nonexistent."³ Then comes the praise.

What is marvelous is the camerawork, the editing and the moment-by-moment sequencing of each episode. The people responsible for these aspects of the show have taken the fact that real time equals television time and made it the basis for a new art form. The heroes of this program are not Jack Bauer and David Palmer; they are the minute and the second. Emblazoned on the screen at irregular intervals is a digital

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1. Carlene Stephens, "The Most Reliable Time": William Bond, the New England Railroads, and Time Awareness in 19th-Century America, 30 TECHNOLOGY & CULTURE 1, 23 (1989). "In 1839, Michel Chevalier preserved this telling self-evaluation of an unnamed American. . . ." *Id.*

2. Wendy Lesser, *The Thrills, and the Chill, of '24'*, N.Y. TIMES, Mar. 31, 2002, § 2, at 27.

3. *Id.* at 37.

clock that marks off the passing seconds, and every time we see it, our anxiety ratchets up a notch. . . . The people and situations in “24” may not reach out and grab us, but their clocks do, and as their lives tick away in seconds, so must ours.⁴

Time⁵ may have become a television celebrity this season, but telling time is something taken for granted by most people alive in 2002. Telling time however, has not always been as easy, straightforward, and mechanical, as it is today. By the late nineteenth century, there was already sufficient conflict over how to tell time to force Americans to litigate the subject. The courts wrestled with this dilemma while legislatures reluctantly moved toward establishing a uniform method of telling time. Congress did not act until 1918.⁶ Why did it take so long to legally establish standard time in the United States? This article will describe just how incredibly complex time determination has been in human history. Focusing on the United States, 1870-1920, two theories will be offered as to why American courts in at least sixteen cases were left to struggle with inconsistent methods of telling time and why Congress took so long to step into the fray and finally resolve the issue.⁷

II. HISTORICAL PERSPECTIVE

In 1858, *Curtis v. March*⁸ was decided by Judge Frederick Pollock in the Court of Exchequer.⁹ The defendant had failed to appear in court at the Dorchester Assizes at 10:00 a.m. sharp and so the judge directed a verdict for the plaintiff.¹⁰ The defendant’s attorney then entered the

4. *Id.*

5. Throughout this article there are so many descriptive adjectives preceding the word “time” that it can become difficult to understand the exact reference. In general, sun time = solar time = God’s time = true, real or apparent time. Opposing this, man-made time = clock time = mean time. However, this is not an exact lexicon and some inconsistent usages are inevitable and must be defined from context. Local time (also sometimes called mean time) is the time of a particular geographical locality usually determined through mechanized means (as opposed to a sundial). Standard time is the time for one of the earth’s 24 time zones; its creation and adoption is a major subject of this article. Daylight saving time is an artificial determination of standard time created to maximize the enjoyment of sunlight at certain times of the year; its creation and adoption are a minor focus of this article.

6. An Act to Save Daylight and to Provide Standard Time for the United States, ch. 24, 40 Stat. 450-51 (March 19, 1918) (current version at 15 U.S.C. §§ 261-64 (2002)). Daylight saving time, a subject deserving of a separate article, was repealed a year later. An Act for the Repeal of the Daylight-Saving Law, ch. 51, 41 Stat. 280 (August 20, 1919) (current version at 15 U.S.C. §§ 261-264 (2002)).

7. *See infra* notes 32-43 and accompanying text.

8. *Curtis v. March*, 157 Eng. Rep. 719 (Ex. Ch. 1858).

9. *Id.*

10. *Id.*

court and demanded to have the cause tried.¹¹ “At that time it wanted one minute and a half to 10 by the town clock. The clock in court was regulated by Greenwich time, which was some minutes before the true time at Dorchester.”¹² On appeal, Judge Pollock, writing for the court, decided in favor of the defendant and the cause was tried.¹³ The holding however is far less interesting than the court’s dicta.¹⁴

The difference between Greenwich time and the real time at Carlisle is several minutes, and therefore if a town council might determine the time, they might make a man born on a different day from that on which he was really born. Or suppose that by act of parliament a person was bound to go out of office on a particular day, the town council by altering the time might put him out of office to-day instead of to-morrow. So if a person is entitled to a bonus from an insurance office in the event of his living to a certain period, that must be decided, not by the town council adopting Greenwich time, but by the mean time of the place. Ten o’clock is 10 o’clock according to the time of the place, and the town council cannot say that it is not, but that it is 10 o’clock by Greenwich time. Neither can the time be altered by a railway company whose railway passes through the place, nor by any person who regulates the clock in the town-hall.¹⁵

As innocent or impractical as this statement may sound, especially to the twenty-first century ear, it reflects mid-nineteenth century England which still ruled an empire and was a place where a person could look up at the sun and ascertain the time without resort to any kind of technology.¹⁶ It is particularly worth noting the disapproval of the

11. *Id.*

12. *Id.*

13. *Id.*

14. *Id.*

15. *Id.* The American press would engage in similar musings on November 18, 1883, the “day of two noons,” when American railroads adopted standard time. MICHAEL O’MALLEY, *KEEPING WATCH: A HISTORY OF AMERICAN TIME* 123-130 (1990).

16. In truth however, railroads exercised far more influence than the judge wished to recognize.

[T]he greatest push toward standardizing time reckoning at a supralocal level came from the railroad world. If there was to be a single timetable for an entire railway system, there was also a need for a single, uniform standard of time. . . . And, indeed, it was the railroad timetable that was primarily responsible for making GMT the uniform standard of time throughout Britain. . . . With the growing use of railroad transportation, many cities soon followed the railroads’ example and by 1855, 98% of all public clocks in Britain were already set to G[reenwich] M[ean] T[ime].

Eviatar Zerubavel, *The Standardization of Time: A Sociohistorical Perspective*, 88 AM. J. SOC. 1, 7 (1982), citing DEREK HOWSE, *GREENWICH TIME AND THE DISCOVERY OF THE LONGITUDE* 87-89, 105-14 (1980). Clark Blaise elaborates: “The first decade of standard time in Britain, the 1850s,

notion that the railroad should have an influence on the determination of the time of day, because in fact, ten years prior to this decision, in 1848, “most British railroads had set their clocks to Greenwich, in defiance of local time and tradition.”¹⁷ Critics had condemned this as “railway-time aggression.”¹⁸ This was “‘usurping the power of the Almighty.’ The authority for time, be it Greenwich Observatory, the railroad, or God, informed the principles, moral, economic, or otherwise, that governed daily life.”¹⁹

The British case of *Curtis v. March* was the progenitor of a line of court decisions in the United States debating the appropriate means of telling time.²⁰ In the period from 1880 to 1920, as the Victorian era gave way to the modern era, complex technological forces²¹ transformed the United States, and indeed the world.²² As one significant part of this

was Britain’s shining moment.” CLARK BLAISE, *TIME LORD: SIR SANDFORD FLEMING AND THE CREATION OF STANDARD TIME* 19 (2000).

17. O’MALLEY, *supra* note 15, at 71.

18. *Id.* The same criticism was leveled in the United States. “To allow the railroads to fix the standard of time would be to allow them at pleasure to violate or defeat the law.” *Henderson v. Reynolds*, 10 S.E. 734, 735 (Ga. 1889). See discussion of this case in text accompanying note 170. See also the quotation from *Tex. Tram & Lumber Co. v. Hightower*, 96 S.W. 1071 (Tex. 1906) in text and accompanying note 169.

19. O’MALLEY, *supra* note 15, at 71, (quoting HOWSE, *supra* note 16, at 49-53) (footnote omitted).

20. *Curtis v. March*, 157 Eng. Rep. 719 (Ex. Ch. 1858).

21. MARK M. SMITH, *MASTERED BY THE CLOCK: TIME, SLAVERY, AND FREEDOM IN THE AMERICAN SOUTH* 90 (1997).

While the railroad compacted American space and time, the telegraph and steamship were technological bedfellows in the quest for global compression. . . . The telegraph especially was deemed to have tamed nature and, in the process, mastered time. . . . It was actually independent of nature because it could function “‘at every hour of the day or night, irrespective of weather.’” . . .

The ascendancy of telegraph time had the considerable effect of wrenching Americans, southerners included, from local time into world time, telling them, as it were, that they were part of a larger world market where time differences both separated and united localities in a standard temporal universe. This was especially true after the laying of the Atlantic telegraph cable in the late 1850s. . . .

Id. at 90.

22. JAMES T. KLOPPENBERG, *UNCERTAIN VICTORY: SOCIAL DEMOCRACY AND PROGRESSIVISM IN EUROPEAN AND AMERICAN THOUGHT, 1870-1920* 152 (1986). “Technology was transforming social structure and cultural values, but the shape of the society and culture that would replace them remained shrouded in doubt.” *Id.* “From around 1880 to the outbreak of World War I a series of sweeping changes in technology and culture created distinctive new modes of thinking about experiencing time and space.” STEPHEN KERN, *THE CULTURE OF TIME AND SPACE, 1880-1918* 1 (1983). “[W]ho never wonders if the dangers of technological progress don’t outweigh the benefits?” O’MALLEY, *supra* note 15, at 308. “‘What people mean by the word *technology* is the stuff that doesn’t really work yet.’” Technology is both the problem and its own solution. No wonder it obsesses us.” STEWART BRAND, *THE CLOCK OF THE LONG NOW: TIME AND RESPONSIBILITY* 16 (1999).

transformation, people began to tell time differently and to focus on time in a different way. Previously, the position of the sun reflected on a sundial was sufficient to determine the time of day. But turn-of-the-century Americans were increasingly focused on, and dependent on, time, and so the usual approximation based on sun time was no longer sufficient. Eventually clocks and watches became the convenient substitute, but they all told different times because each was set based on the sun time at the longitude for the location of the timepiece.

In 1883, a standard time was established by the railroads in the United States,²³ in conformity with a worldwide movement toward standard time, i.e., a uniform common time for an identified geographical area.²⁴ Businesses generally adopted standard time and eventually so did governmental entities.²⁵ But legislatures were slow to enact legislation formally setting standard time as every citizen's standard.²⁶ The United States Congress did not adopt a standard time

23. Ian R. Bartky and Elizabeth Harrison, *Standard and Daylight-saving Time*, 240 SCI. AM. 46 (1979). "On November 18, 1883, most of the railroads in the U.S. and Canada began to operate on Standard Railway Time, reducing the number of railroad times from at least 56 to four." *Id.* Chapter 3 of SMITH, *supra* note 21, is devoted to the interdependence of steamships, railways, the telegraph and the postal service and their combined emphasis on punctuality.

24. In 1884 representatives of twenty-five countries that convened at the Prime Meridian Conference in Washington proposed to establish Greenwich as the zero meridian, determined the exact length of the day, divided the earth into twenty-four time zones one hour apart, and fixed a precise beginning of the universal day. But the world was slow to adopt the system, for all its obvious practicality.

....

The proponents of world time were few, and none of them . . . were well known beyond the narrow circle of fellow reformers. Nevertheless the concept of public time was widely accepted as a proper marker of duration and succession. There were no elaborate arguments on its behalf because there seemed to be no need.

KERN, *supra* note 22, at 12, 15. For a wonderful, behind-the-scenes account of the Prime Meridian Conference of 1884, see BLAISE, *supra* note 16, at 194 *et seq.*

25. Ian R. Bartky, *The Adoption of Standard Time*, 30 TECH. & CULTURE 25, 49-50 (1989). "By April 1884 Allen was reporting that seventy-eight of the hundred principal American cities had adopted the new time." *Id.*

26. Not all states actually passed legislation controlling the use of standard time; some did but incorporated the 1918 federal statute by reference. Those that did legislatively adopt standard time include the following: ALA. CODE § 11 (1907), 1945 Ariz. Sess. Laws ch. 38, CAL. GOV'T CODE § 6807-2 (West 1995), COLO. REV. STAT. ANN. § 2-4-109(1) (West 2000), CONN. GEN. STAT. § 4888 (1902), 1889 Fla. Laws ch. 3916, 1947 Haw. Sess. Laws 161, § 20.01, 1959 Ill. Laws § 1, 1929 Ind. Acts ch. 103, 1965 Iowa Acts ch. 140, §§ 1, 2, 1868 Kan. Sess. Laws ch 25, § 172, 1931 Me. Acts ch. 273, 1884 Md. Laws ch. 433, 1920 Mass. Acts. ch. 280, 1885 Mich. Pub. Acts 5, 1905 Minn. Laws § 5514, 1974 Neb. Laws LB651, 1921 N.H. Laws ch. 15, 1884 N.J. Laws ch. CXIII, §§ 1, 2, 1884 N.Y. Laws ch. 14, § 5, 1927 Ohio Laws § 5979, 1961 Or. Laws ch. 417, 1887 Pa. Laws 18, 1946 R.I. Acts & Resolves ch. 1778, § 1, 1909 S.D. Laws ch. 46, § 1, 1949 Tenn. Pub. Acts ch. 5, § 1, 1947 Tex. Gen. Laws ch. 359, 1921 Vt. Acts & Resolves No. 261, §§ 1, 2, VA. CODE ANN. § 1-15 (Michie 1950), 1953 Wash. Laws ch. 2, § 1, 1923 Wis. Laws ch. 244, § 1, 1884 Wyo. Sess. Laws

until 1918 and then it was done in conjunction with daylight saving time and justified as a war emergency measure.²⁷ Daylight saving time was repealed a year later,²⁸ but the standard time system was retained. And so, until 1918 the nation was faced with conflicting approaches for telling time.

Numerous lawsuits in which time's reckoning was an issue occurred in part because there was so little legislation spelling out the accepted way to tell time.²⁹ The sixteen American appellate cases analyzed below cover state court decisions and one federal court decision involving parties in two states.³⁰ They range from 1889-1924. Most are civil actions; a few are criminal cases. In some, time determination is crucial to the outcome; in others it is a tangential matter.

A review of the parties' arguments suggests the relevance of not

ch. 95, § 1. Most interesting of all, Congress passed An Act to Establish a Standard of Time in the District of Columbia, ch. 12, 23 Stat. 4 (1884), 34 years prior to the passage of the national statute!

27. See 40 Stat. 450-451 (1918) (current version at 15 U.S.C. §§ 261-64 (2002)).

28. An Act for the Repeal of the Daylight-Saving Law, ch. 51, 41 Stat. 280 (August 20, 1919) (current version 15 U.S.C. §§ 261-64 (2002)). For a summary of the daylight saving enactments and repeals in the twentieth century, see CARLENE E. STEPHENS, *INVENTING STANDARD TIME* (1983).

29. Dan Thu Nguyen, *The Spatialization of Metric Time: The Conquest of Land and Labour in Europe and the United States*, 1 TIME & SOCIETY 29, 33 (1992), citing HOWSE, *supra* note 16, at 121-126. "[B]y 1884, 85% of all US towns over 10,000 inhabitants were living on railway time. Once again, as in England, legislation lagged behind practice: Congress did not pass an Act to legalize standard time all over the United States until 1918." *Id.* "The growth in railroad and scientific circles of an interest in standard time met with no response in the legislative assemblies of the country. The only real possibility of action seemed to be through the railroads, and here the body most interested was the General Time Convention." Robert E. Reigel, *Standard Time in the United States*, 33 AM. HIST. REV. 84, 86 (1927). Sometimes the resistance to standard time seemed to be both official and personal as with the mayor of Bangor, Maine, who vetoed an ordinance calling for the adoption of standard time. "He declares that neither railroad laws nor municipal regulation has power to change one of the immutable laws of God, that the hours of noon, sunrise and sunset should occur at different periods of the day, at different localities upon the earth's surface." RAILROAD GAZETTE (N.Y., Feb. 4, 1884).

30. The cases considered here include: *Curtis v. March*, 157 Eng. Rep. 719 (Ex. Ch. 1858); *Henderson v. Reynolds*, 10 S.E. 734 (Ga. 1889); *Searles v. Averhoff*, 44 N.W. 872 (Neb. 1890); *Proctor Coal Co. v. Finley*, 33 S.W. 188 (Ky. 1895); *Parker v. State*, 29 S.W. 480 (Tx. Crim. App. 1895); *State v. Johnson*, 77 N.W. 293 (Minn. 1898); *Jones v. German Ins. Co. of Freeport, Ill.*, 81 N.W. 188 (Iowa 1899); *Rochester German Ins. Co. v. Peaslee Gaulbert Co.*, 87 S.W. 1115 (Ky. L. Rptr. 1905); *Orvik v. Casselman*, 105 N.W. 1105 (N.D. 1905); *Tex. Tram & Lumber Co. v. Hightower*, 96 S.W. 1071 (Tex. 1906); *Globe & Rutgers Fire Ins. Co. of N.Y. v. David Moffat Co.*, 154 F. 13 (2d Cir. 1907); *Salt Lake City v. Robinson*, 116 P. 442 (Utah 1911); *Walker v. Terrell*, 189 S.W. 75 (Tex. Civ. App. 1916); *Bank of Fruitvale v. Fidelity & Casualty Co. of N.Y.*, 170 P. 852 (Cal. App. 1917); *Goodman v. Caledonian Ins. Co. of Scotland*. Same v. *Ins. Co. of State of Pa.*, 118 N.E. 523 (N.Y. 1917); *Briegel v. Day*, 195 N.Y.S. 295 (N.Y. App. Div. 1922); *Carroll v. City of Bayonne*, 124 A. 613 (N.J. 1924). Another time case not analyzed here was *Meier v. Phoenix Ins. Co.*, (unreported case decided in the Supreme Court of Ohio, April 4, 1902).

only local conditions for each case but also a national struggle over coming to terms with this new way of telling time. In a sense, the time story follows the contours of the Legal Process Theory.³¹ Initially, time was a private matter determined by each individual through reference to natural clues. But as society grew and industrialization expanded, individuals became more and more interdependent and conflicts developed as to whose determination of time would rule group activity.³² Inevitably reference to the group's decision-makers, judges, grew. These judges struggled valiantly, trying to develop logical easy-to-follow guidelines so that Everyman would be able to determine what time it was.³³ Alas, this was easier said than done. One of society's most dominant members, the railroads, developed and adopted standard time for its particularly important societal activity, transportation.³⁴ Eventually, judges bowed to the necessity of ruling consistently with the railroads' decisions.³⁵ Meanwhile legislatures, ever loath to enter the private sphere, began to see that the determination of time could no longer remain a private matter. Gradually a body of state law³⁶ and, eventually, federal law was adopted to regulate one more aspect of life which had once been a private matter.³⁷ True to the bureaucratic spirit of the post-World War I era, a federal administrative agency, the Interstate Commerce Commission, was placed in charge of making standard time and daylight saving time work for all citizens.³⁸

31. See generally, HENRY M. HART, JR. & ALBERT M. SACKS, *THE LEGAL PROCESS: BASIC PROBLEMS IN THE MAKING AND APPLICATION OF LAW* (William N. Eskridge & Philip P. Frickey eds., 1994).

32. See *id.* at 1: "Here enters the most fundamental of the conditions of human society. In the satisfaction of all their wants, people are continuously and inescapably dependent upon one another. . . . It is most significantly true of the great range of wants which depend for their satisfaction upon the division of labor." *Id.*

33. *Id.* This is an example of what Hart & Sacks call "the principle of institutional settlement":

To leave decisions of these questions [of society's common concerns] to the play of raw force would defeat these purposes [i.e., to preserve society]. . . . The principle of institutional settlement expresses the judgment that decisions which are the duly arrived at result of duly established procedures of this kind ought to be accepted as binding upon the whole society unless and until they are duly changed.

Id. at 4.

34. See *infra* text accompanying note 254 et seq.

35. As suggested in the discussion of the court cases, as time went on, judges did bow to the inevitability of standard time. However, traces of resentment over "railway-time aggression" lingered. See *supra* notes 16-18 and accompanying text.

36. See *supra* note 26, citing the state legislation on standard time.

37. See 40 Stat. 450-51 (1918) (current version at 15 U.S.C. §§ 261-64 (2002)), *repealed in part* by 41 Stat. 280-81 (1919) (current version at 15 U.S.C. §§ 261-64 (2002)).

38. *Id.* See also William N. Eskridge & Philip P. Frickey, *Historical and Critical*

From a more historical perspective, establishing a uniform means of telling time can be viewed as one of many social challenges faced in the Progressive era. Early on, telling time had been a matter of private, individual autonomy.³⁹ But the industrialized setting of the early twentieth century demanded social cohesion, conformity to group norms, leading to efficiency.⁴⁰ Because the executive and legislative branches of government were not at their strongest in this period, by default the judicial branch worked at resolving the conflict among all the different time-telling techniques.⁴¹ By World War I, with the emergence of a more active legislative branch, i.e., Congress, a legislative resolution mandated one standard and uniform method for telling time.⁴²

The period of 1870-1920 was a major transition period for the western world, and especially the United States. It was a time of

Introduction, in *The Legal Process: Basic Problems in the Making and Application of Law*, *supra* note 32, at lix-lxii, for a discussion of the growth of the administrative state from 1912 to 38. “[J]udges are generalists...” *Id.* at lxi. Administrative agencies were better suited for decisionmaking in areas requiring expertise. The growth of bureaucracy and administration was a larger societal theme during the first decade or so of the twentieth century. *See infra* text accompanying notes 314-17.

39. Still the most common explanations most Americans gave to political, economic, and social questions at the end of the century were couched in terms of largely autonomous individuals: poverty and success were said to hinge on character; the economy was essentially a straight sum of individual calculations; governance was a matter of good men and official honesty. Part of what occurred in the Progressive era was a concerted assault on all these assumptions, and, in some measure, an assault on the idea of individualism itself. . . . In its place, many of the progressives seized on a rhetoric of social cohesion.

Daniel T. Rodgers, *In Search of Progressivism*, 10 *REVIEWS IN AM. HIST.* 113, 124 (1982).

40. “Like the language of antimonopolism, the language of social bonds focused its users’ anger on the irresponsible, antisocial act; but it directed its users’ longings not to honesty but to a consciously contrived harmony.” *Id.* at 125.

41. ELDON J. EISENACH, *THE LOST PROMISE OF PROGRESSIVISM* 16 (1994).

At the national level, accommodating all of these competing interests was of such an order of complexity—simply bargaining over tariffs became more than Congress could handle by the early twentieth century—that major financial and industrial policies were by default set in the federal courts. Indeed, at the beginning of this period, the power of the president and the administrative capacity of the executive branch were so deficient (and deliberately so, given the power of political parties) that even the generation and diffusion of social and economic statistics were often beyond its level of competence.

Id.

42. That federal appellate courts regularly intervened in national regulation was less a testimony to their autonomous power than to the incapacity of Congress to agree on clear standards. Only in the decade preceding our entry into World War I and in the bureaucratic legacy of that war can one discern “the creation of the American state” as permanent and quasi-autonomous institutions.

Id. (citation omitted). For yet another view of this period, see STEPHEN SKOWRONEK, *BUILDING A NEW AMERICAN STATE: THE EXPANSION OF NATIONAL ADMINISTRATIVE CAPACITIES, 1877-1920* (1982).

nervousness,⁴³ a time of war, and a time when the pace of change was involuntarily quickening. Whether the preoccupation with the exact time in these court cases was the absolutely necessary part of doing business in the now modern world, as asserted by the parties to the suits, or whether it was simply “buncombe” as one judge⁴⁴ described it, i.e., just an excuse to avoid contractual obligations, these decisions, reached varying but arguably reconcilable results.

To the twenty-first century mind, time is money⁴⁵ and so there is huge concern regarding making the most of every waking moment.⁴⁶ Many people maximize their waking moments by sleeping as little as possible.⁴⁷ The thought that one might not know down to the minute just

43. KERN, *supra* note 22, at 15:

Punctuality and the recording of work time did not originate in this period, but never before had the temporal precision been as exact or as pervasive as in the age of electricity. From the outset there were critics. Some pathological effects were noted in that catalog of medical alarmism, George Beard's *American Nervousness*. He blamed the perfection of clocks and the invention of watches for causing nervousness wherein 'a delay of a few moments might destroy the hopes of a lifetime.' Every glance at the watch for these nervous types affects the pulse and puts a strain on the nerves. There were many other alarmists who reacted adversely to the introduction of standard time, but the modern age embraced universal time and punctuality because these served its larger needs.

Id. The early twentieth century preoccupation with time and the nervousness, neurosis, anxiety, and freneticism it brought on could be the subject of a separate article. A number of authors discuss this; see RONALD TAKAKI, *IRON CAGES: RACE AND CULTURE IN NINETEENTH-CENTURY AMERICA* 165 (1979) (discussing GEORGE BEARD'S *AMERICAN NERVOUSNESS* (1881)); SMITH, *supra* note 21, at 65-66 (nineteenth century merchants developed nervous disorders at the prospect of losing time), and at 85 (indicating that freneticism and similar afflictions were the salient features of the post-1830 South); O'MALLEY, *supra* note 15, at 150 (discussing nervousness due to the emphasis on punctuality), and at 158 (noting that teachers' "nervous force" is saved by having clock-bound bells to start/stop their classes); KERN, *supra* note 22, at 70 (citing a concern that reading many newspapers, answering the phone, and thinking simultaneously about all five continents would lead to "injury to the nerves.") Multi-tasking was injurious before the concept was even invented!

44. *State v. Johnson*, 77 N.W. 293 (Minn. 1898). Judge Frank Ives, of Polk County, Minnesota, made this assertion at trial as quoted in *State v. Johnson*, 77 N.W. 293, 294 (Minn. 1898): "I shall certainly deprive this defendant, and all others, of any such buncombe as this for a defense." *Id.* Justice Mitchell of the Minnesota Supreme Court commented: "There may be a difference of opinion as to the good taste of this remark" but found it harmless. *Id.* The term "buncombe" was quite popular in discussing time, as described by O'Malley, *supra* note 15, at 268: "Most writers resented daylight saving as some sort of fakery, a sugar coating on the bitter pill of morning. *The Saturday Evening Post* called it "a harmless piece of buncombe," but asked sarcastically "why not 'save summer' by having June begin at the end of February?"

45. Actually, this concept goes back to the mid-18th century. Benjamin Franklin, *Poor Richard's Almanac*, Jan. 1751, reprinted in *THE PAPERS OF BENJAMIN FRANKLIN*, iv, 86-87 (Leonard W. Labaree, et al., eds.) (1961). *Id.*

46. See JAMES GLEICK, *FASTER: THE ACCELERATION OF JUST ABOUT EVERYTHING* 9 (1999) (describing the malady as "hurry sickness").

47. See *id.* at 121-25 (unnumbered chapter: "1,440 Minutes a Day," noting the average person sleeps only seven hours and eighteen minutes); DAVID LANDES, *REVOLUTION IN TIME: CLOCKS*

what time it is strikes the driven, sleep-deprived, early twenty-first century person as unthinkable.⁴⁸ But ultimately time is an artificial construct that has gone through many iterations in human history.⁴⁹ One cannot improve on St. Augustine's statement of the dilemma: "What, then, is time? If no one asks me, I know what it is. If I wish to explain it to him who asks me, I do not know."⁵⁰

The next section will analyze the court cases for what they tell about a society that gradually came to see some value in a standard time system but was reluctant to legislate one formally.⁵¹ Then it is worth

AND THE MAKING OF THE MODERN WORLD 91 (1983) (discussing the fact that Petrarch hated sleep because it reminded him of death); A. Roger Ekirch, *Sleep We Have Lost: Pre-Industrial Slumber in the British Isles*, 106 AM. HIST. REV. 343 (2001) (arguing that the good old days weren't); Verlyn Klinkenborg, *Awakening to Sleep*, N.Y. TIMES MAGAZINE, Jan. 5, 1997, at 26 (discussing the growing problem of sleep disorders); *Facing Up to the Realities of Sleep Deprivation*, N.Y. TIMES, Mar. 31, 1998, at B13; Valerie Marchant, *In the Deep of the Night*, TIME MAGAZINE, Nov. 1, 1999, (unnumbered pages) (noting that those who depart from the basic time clock pay a physiological toll); Michael Castleman, *Dead Tired*, S. F. FOCUS, Oct. 1996, at 47 (noting that sleepiness has been a major cause of catastrophe); Sue Shellenbarger, *It's the dawn of time for the sleep-deprived*, S. F. EXAMINER & CHRONICLE, Feb. 28, 1999, at CL31 (discussing that skimping on sleep can have serious consequences); Nancy Ann Jeffrey, *New Status Symbol: Eight Hours of Sleep*, S. F. EXAMINER, Apr. 4, 1999, at C-14 (arguing that for many Americans a lack of sleep interferes with their jobs, family duties and daily activities); David Tarrant, *Z-Z Street*, S. F. EXAMINER, Jan. 16, 2000, at J-1 (noting that a lack of sleep costs employers billions); Mary Williams Walsh, *As Overtime Rises, Fatigue Becomes a Labor Issue*, N.Y. TIMES, Sept. 17, 2000, at 1, 28 (recognizing the dangers of physical exhaustion). And for those not yet fatigued who need to know more, check out <http://www.sleepfoundation.org>.

48. "The time-obsessed used to keep their watches accurate to within seconds; now they keep their computers accurate to within milliseconds." GLEICK, *supra* note 46, at 7. However, things may be different in some places, for example, Indiana, "where a traditional agricultural economy and a stubborn independence streak have kept daylight saving time at bay for decades." Pam Belluck, *Indiana, Split by Time, Struggles Anew*, N.Y. TIMES, Jan. 31, 2001, at A1, A18.

49. "The history of American time shows that like other values we tend to take as eternal certainties, time is for the most part a plastic, changeable notion, a social creation." O'MALLEY, *supra* note 15, at 312.

50. ST. AUGUSTINE, *CONFESSIONS*, Book XI, xiv, 17 at 230 (Henry Chadwick trans., Oxford U. Press 1991) (397 A.D.). Anyone who writes seriously about time, quotes St. Augustine (though too often without a footnote). Another interesting rumination from St. Augustine on this theme is: "The present of things past is memory; the present of things present is sight; the present of things future is expectation." *Id.* Book XI, xx, 26 at 235, cited in Earl McKenzie, *Time in European and African Philosophy: A Comparison*, 19 CARIBBEAN Q. 77, 78 (1973). Then again, St. Augustine did not have access to THE AMERICAN & ENGLISH ENCYCLOPEDIA OF LAW (2d ed., 1905), 28:210, for this definition of time: "[T]he system of those relations which any event has to any other, as past, present, or future, and also as 'the measure of duration.'"

51. There does not seem to be one answer to the question as to why legislation on standard time was so slow in coming. O'Malley has stated: "Standard time, by 1900, was de facto law in most urban places—unauthorized by statute but honored almost unthinkingly in practice." O'MALLEY, *supra* note 15, at 192. However, he has also stated: "Time, after all, remained a fairly hazy idea for most people, fraught with vaguely unsettling religious implications and perhaps better left alone." *Id.* at 99.

considering how this country arrived at the point where one had to go to court to decide what time it was.⁵² For this, the rather untidy history of the process by which each human marks his/her progress on the continuum from birth to death (the ultimate point of telling time)⁵³ will be summarized.⁵⁴ While it was not just an American phenomenon, particular emphasis will be given to the uniquely American historical setting for these cases. Finally, the federal legislation of 1918⁵⁵ establishing standard time nationwide will be considered.⁵⁶ This event brought to formal conclusion the struggle of sun time versus clock time, but only for a moment, and it marked the commencement of the more sophisticated twentieth century struggle over daylight saving time.

III. THE COURT CASES

The litigation challenging the use of standard time or solar time falls into several categories: four fire insurance cases where the insured property has been destroyed just before or just after the expiration date of the policy depending upon which interpretation of time was used,⁵⁷ and one case involving insurance against robbery at a bank where the robbery's time of occurrence (mean or solar) determined coverage. There are three liquor license cases where the bar owner's license was revoked because of a violation of the time limit for selling alcohol and the defense was that the authorities were enforcing a different time than the barkeep. In three cases juries returned verdicts just before or just after midnight (depending on whether solar or standard time was used) on a Saturday night. In two of the three cases, it was the last day of the court term, so that if it was deemed to be after midnight, they were both violating the Sabbath and turning in a verdict after the court's term ended. Three cases fit no particular category. The last two cases, decided in 1922 and 1924, have to do with the use of daylight saving time versus standard time. All these cases are American, and all but one were decided in state courts. But the grandparent of all of them, and one

52. See *infra* notes 218-66 and accompanying text.

53. "American folklore linked clocks with mortality and the linear brevity of life." O'MALLEY, *supra* note 15, at 33.

54. See *infra* notes 218-66 and accompanying text.

55. See 40 Stat. 450-51 (1918) (current version at 15 U.S.C. §§ 261-64 (2002)), *repealed in part* by 41 Stat. 280-81 (1919) (current version at 15 U.S.C. §§ 261-64 (2002)).

56. See *infra* notes 326-52 and accompanying text.

57. Probably the most interesting aspect of these cases, and something never addressed, was the insured's intention with regard to renewing the insurance policy or obtaining a new policy from a different insurer.

oft-cited, is the British case, *Curtis v. March*, decided in 1858.⁵⁸

Curtis v. March, deserves further serious attention, even if it was often dismissed by American jurists, for what it says in dicta regarding the way judges grappled with the dilemma of two time systems.⁵⁹ Whether American judges agreed with the decision or not, its commentary on how time was to be determined would echo across the Atlantic.

In the mid-nineteenth century, even earlier than 1858, Americans were having their own difficulties telling time. Michael O'Malley, in his book, *Keeping Watch*, relays the story of the election controversy in Pottsville, Pennsylvania, a mining town, in 1843.⁶⁰ The polls were supposed to close at 7:00 p.m., but some people were seen voting as late as 8:20.⁶¹ A follow-up investigation revealed that the numerous sources of the time used in the town could result in differences of up to an hour, depending on whose timepiece was relied upon.

Who owned the most reliable watch? Whose clock told the correct time? In Pottsville, with no agreed-upon standard, it was impossible to tell.

These men objected to being victimized by an arbitrary standard of time—a time derived from clocks they couldn't verify or control. Since watches were still too expensive for most people, the sun offered an indisputable standard honored by tradition and religious authority, free from the owner's influence.⁶²

Consistent with *Curtis v. March*, until the 1880s American cases tended to be decided in favor of solar time reckoning. Thereafter, because of the influence of the railroads and the standard time zones they had adopted, standard time gradually became the legislatively established norm for governmental bodies.⁶³ As a consequence, many court rulings began to apply standard time in other circumstances. However, as seen below, there were some variations from this theme.⁶⁴

58. See *Curtis v. March*, 157 Eng. Rep. 719 (Ex. Ch. 1858) and text accompanying note 8, *supra*, for a brief description of the case.

59. *Id.*

60. O'MALLEY, *supra* note 15, at 40-41.

61. *Id.*

62. *Id.* at 41.

63. See *supra* notes 23-25 and accompanying text.

64. It is reasonable to assume that a vast number of American cases were filed, and even went to trial, where a major issue was which method of determining time would prevail. The sixteen cases considered here are those appealed to higher courts.

In *Jones v. German Insurance Company of Freeport, Illinois*,⁶⁵ the plaintiff had a fire insurance policy on his property that was in effect for one year, expiring at “twelve o’clock at noon” on 18 September 1896.⁶⁶ A fire broke out destroying the property at 11:45 a.m. sun or common time, which was 12:02 1/2 standard time.⁶⁷ Was the property covered under the policy or had the policy expired? Did common time or standard time rule? The Court affirmed the ruling below that common or sun time ruled,⁶⁸ discussing and quoting extensively from *Henderson v. Reynolds*⁶⁹ and *Searles v. Averhoff*.⁷⁰ “Time, when it concerns a legal duty, should be fixed with reference to a certain unvarying, uniform standard, and that standard in this state, is the meridian of the sun.”⁷¹ But *Jones*, decided in 1899, was the only one of the four fire insurance cases favoring the use of solar time.

*Rochester German Insurance Co. v. Peaslee Gaulbert Co.*⁷² involved a fire insurance policy with a term from 1 April 1901, noon, to 1 April 1902, noon.⁷³ A fire started in a Louisville, Kentucky factory building at about 11:45 a.m., standard time, on 1 April 1902.⁷⁴ The alarm was turned in at the fire department of the city at 11:59 a.m., standard time.⁷⁵ 11:45 a.m. standard time was 12:02 1/2 solar time.⁷⁶ The building’s owners insisted that standard time was in common usage and was what they meant when they signed the contract.⁷⁷ The insurance company insisted that solar time was meant.⁷⁸ The court affirmed the judgment below in favor of plaintiffs, supporting the use of standard time, but ordered a new trial on a question of insurance liability.⁷⁹ The court stated: “To know the time, and to act upon the

65. *Jones v. German Ins. Co. of Freeport, Ill.*, 81 N.W. 188 (Iowa 1899).

66. *Id.* at 189.

67. *Id.*

68. *Id.* at 190.

69. *Henderson v. Reynolds*, 10 S.E. 734 (Ga. 1889).

70. *Searles v. Averhoff*, 44 N.W. 872 (Neb. 1890).

71. *Jones*, 81 N.W. at 190.

72. *Rochester German Ins. Co. v. Peaslee Gaulbert Co.* 87 S.W. 1115 (Ky. 1905).

73. *Id.* at 1116.

74. *Id.*

75. *Id.*

76. *Id.*

77. *Id.*

78. *Id.*

79. *Id.* at 1119. “In the Rochester German Insurance Company Case the further question arises, when must the loss occur?” *Id.* In the court below, the answer was that if the destruction of the warehouse was inevitable by noon then the policy covers it. *Id.* The appellate court says there can be a big fire of several adjacent buildings in an area that can go on for days and it is unfair to say that because destruction of a particular building is ascertainable on Monday that it is covered by

means of such knowledge as if it were a practical certainty, is of the first importance in most of the transactions of daily life.”⁸⁰

The third fire insurance case was the 1907 federal court case of *Globe & Rutgers Fire Insurance Company of New York v. David Moffat Company*,⁸¹ in which a New York insurance company insured a tannery located in Virginia for one year, expiring at noon on 8 January 1902.⁸² The fire started between 11:20 and 11:30 a.m. that day, although exactly when the destruction of the insured property occurred varies with whether solar time or standard time is used.⁸³ The court ordered a new trial because of a number of questions, including the fact that they could not determine whether standard time or solar time was in common usage in Iron Gate, Virginia, the location of the insured property.⁸⁴ “If the contract were one to be performed here [i.e., New York], the answer would be easy,” stated the court citing the 1892 New York state law adopting standard time for all legal and official proceedings in that state.⁸⁵ “Business in this city [New York City] has conformed itself to this regulation so universally that this court will take judicial notice of existing conditions.”⁸⁶ But regarding what was meant, standard or solar time, in Iron Gate, “we do not pass upon it now, because there will have to be a new trial, and the testimony then presented may not be precisely the same.”⁸⁷

The fourth fire insurance case was *Goodman v. Caledonian Insurance Company of Scotland*.⁸⁸ The inventory in plaintiff’s clothing store located in Buffalo was insured by defendant for the term of 29 July 1913 at noon, to 29 July 1914 at noon.⁸⁹ The issue in this case as in the three preceding cases was whether the fire occurred before or after noon and whether solar time or standard time was to be used to determine noon.⁹⁰ The trial court ruled in favor of the plaintiff based on sun time but the appeals court reversed and ordered a new trial stating that a 1909

the policy expiring at noon on Monday even if the big fire does not actually reach it until Friday—that goes too far. *Id.*

80. *Id.* at 1117.

81. *Globe & Rutgers Fire Ins. Co. of N.Y. v. David Moffat Co.*, 154 F. 13 (2d Cir. 1907).

82. *Id.* at 14.

83. *Id.* at 14, 20.

84. *Id.* at 21-22.

85. *Id.* at 20.

86. *Id.* at 21.

87. *Id.*

88. *Goodman v. Caledonian Ins. Co. of Scotland. Same v. Ins. Co. of State of Pa.* 118 N.E. 523 (N.Y. 1917).

89. *Id.* at 523.

90. *Id.*

New York law made standard time applicable.⁹¹ While the jury had found that the policies were in force when the fire began, the judge may have erroneously instructed the jury with regard to sun/standard time.⁹² Therefore a new trial was ordered in which it was to be made clear to the jury that standard time controlled.⁹³

*Bank of Fruitvale v. Fidelity and Casualty Company of New York*⁹⁴ involved an Oakland, California, bank that had taken out an insurance policy against inside or outside robbery.⁹⁵ The hours covered under the policy were 8:00 a.m. to 5:00 p.m., Monday to Friday, and up to 8:30 p.m. on Saturdays.⁹⁶ On Saturday evening, February 21, 1914, \$2,300 was stolen at 8:34 p.m. standard time, 8:25 p.m. mean time.⁹⁷ Time was not the only contentious issue here.⁹⁸ The policy required that a guard be present at all times, yet the guard had inexplicably walked away at 8:15 p.m., mean time.⁹⁹ Also, the bank-plaintiff had not read its policy carefully and thought the coverage extended to 9:00 p.m., its time of closing.¹⁰⁰ The court held in favor of defendant insurance company on all issues.¹⁰¹ With regard to time, standard time was actually mentioned in the contract to determine the beginning and ending dates and times of the insurance policy and so it was only logical that it should control as to time of coverage. "Section 1875 of the Code of Civil Procedure enumerates 'the measure of time' as one of the facts of which courts take judicial notice; and since the year 1883 standard or railroad time has been uniformly recognized and adopted as the measure of time in this state."¹⁰²

One interpretation of these five cases is that they conform to the "construction against drafter" rule of contract law where ambiguity exists.¹⁰³ "It is a general rule of interpretation that an expression is to be interpreted most strongly against the party responsible for its drafting. . . . The rule finds frequent application in cases dealing with insurance contracts or other contracts containing standardized (printed)

91. N.Y. GEN. CONSTR. LAW §§ 52, 53, (c. 27, 1909) cited in *Goodman*, 118 N.E. at 524.

92. *Goodman*, 118 N.E. at 524.

93. *Id.*

94. *Bank of Fruitvale v. Fidelity & Casualty Co. of N.Y.*, 170 P. 852 (1917).

95. *Id.* at 853.

96. *Id.*

97. *Id.*

98. *Id.*

99. *Id.*

100. *Id.* at 854.

101. *Id.*

102. *Id.*, citing CAL. CIV. PROC. CODE § 1875 (1915).

103. JOHN E. MURRAY JR., *MURRAY ON CONTRACTS* 425, § 88G, (3d ed. 1990).

terms.”¹⁰⁴ In the 1917 *Fruitvale Bank* case, there was considerably less room for arguing ambiguity of terms because standard time had specifically been mentioned elsewhere in the contract and standard time was in general use in California by that date.

Another interpretation of these five cases is that the earliest, *Jones*, decided in 1899, is the only one in which solar time prevailed, principally because the use of standard time was not then so widespread. The other three cases, all occurring after the turn of the century (1905, 1907, 1917) show an increasing acceptance of standard time, particularly in the two cases where New York state statutes are cited as either persuasive (the 1907 federal case) or dispositive (the 1917 New York state court case). The increasing popular acceptance of standard time eventually led to passage of the national law in 1918.¹⁰⁵ But these straightforward explanations for the resolution of casualty and theft insurance disputes do not work so well for the liquor license cases.

In 1878, a Minnesota law was passed stating that establishments selling intoxicating liquors must close by 11 p.m. In 1889, the statute was reenacted with amendments but retained the 11 p.m. closing time. According to the court in *State v. Johnson*,¹⁰⁶ “[i]n 1883, the railroads of the United States and Canada adopted four kinds of standard time, viz. Eastern, Central, Mountain, and Pacific, each applicable to a region covering approximately 15 deg. of longitude; in each case the standard being actual sun time at the central degree of longitude of the region to which the particular standard time was applicable.”¹⁰⁷ In 1898, the defendant was convicted of keeping his saloon open after 11:00.¹⁰⁸ He claimed it was 6 minutes before 11:00 sun time when he closed.¹⁰⁹ Neither the trial court nor the state supreme court was persuaded.¹¹⁰ The trial judge stated: “I shall certainly deprive this defendant, and all others, of any such buncombe as this for a defense.”¹¹¹ In response to the defendant’s claim that such a statement was prejudicial error, the supreme court stated: “There may be a difference of opinion as to the good taste of this remark . . . [b]ut we fail to see how the remark could have prejudiced the defendant, when made merely with reference to a

104. *Id.*

105. See 40 Stat. 450-51 (1918) (current version at 15 U.S.C. §§ 261-64 (2002)), *repealed in part by* 41 Stat. 280-81 (1919) (current version at 15 U.S.C. §§ 261-64 (2002)).

106. *State v. Johnson*, 77 N.W. 293 (Minn. 1898).

107. *Id.* at 294.

108. *Id.* at 293.

109. *Id.*

110. *Id.* at 294.

111. *Id.*

legal proposition, with which the jury had nothing to do.”¹¹²

It is worth noting that while this 1898 Minnesota trial judge described the solar versus standard time conflict as “buncombe,” something trivial, inconsequential, the popular mindset in 1898 was far different.¹¹³ People really did want to know with certainty what time it was, and, notwithstanding a statute applicable to a specific business, the average late-nineteenth-century American viewed sun time as the general standard.

No court took the matter of sun or standard time more seriously than the Utah Supreme Court in the 1911 case of *Salt Lake City v. Robinson*.¹¹⁴ The defendant was convicted of violating a Salt Lake City ordinance prohibiting the sale of liquor on Sunday or between 12 midnight and 6 a.m.¹¹⁵ Defendant had sold beer at 20 or 25 minutes after midnight standard time but just before midnight solar time in Salt Lake City.¹¹⁶ The court decided that the City Council had mountain standard time in mind when it passed the ordinance and so the court upheld the defendant’s conviction on what was a quasi-criminal ordinance.¹¹⁷ In a dissenting opinion, Justice Straup maintained that in the case of an ambiguity in an ordinance, the case should be construed in favor of the person charged with violating the ordinance.¹¹⁸ He also objected to the fact that the court did not give the jury an instruction regarding the determination of solar or standard time and which time system was to be used in determining the defendant’s guilt or innocence.¹¹⁹ Among the court opinions considered, this is one of the longer ones with elaborate examination of precedents, and yet the facts seem simple and straightforward.¹²⁰

The opinion is notable for its length. There may be reasons for this that are not readily apparent today. In particular, the conflict between standard and solar time was reaching some kind of turning point by 1911, and the *Robinson* court may not only have felt compelled to be very explicit in its reasoning but also may have hoped to establish guiding precedent, settling the matter for other state court brethren.

112. *Id.*

113. *Id.*

114. *Salt Lake City v. Robinson*, 116 P. 442 (Utah 1911).

115. *Id.* at 443.

116. *Id.* at 444.

117. *Id.* at 443-44.

118. *Id.* at 447 (Straup, J., dissenting).

119. *Id.* at 448.

120. The briefs, which examine the precedents and facts, are no longer available for *Salt Lake City v. Robinson*.

The third liquor license case is another long opinion, full of extensive quotations from testimony given in the trial court, as well as citations to, and discussion of, other solar versus standard time cases (though neither *Johnson* nor *Robinson* is mentioned). *Walker v. Terrell*¹²¹ involved revocation of a liquor dealer's license because he violated the law which required that liquor not be sold after 9:30 p.m. or before 6 a.m. and not at all on Sunday.¹²² Again the issue was whether solar or standard time controlled.¹²³ The trial court held in favor of standard time and upheld defendant's conviction.¹²⁴ But the appeals court applied the use of solar time and remanded the case for a new trial, even though the time issue was not raised in appellant barkeep's pleadings.¹²⁵

The first two liquor license cases may simply reflect the long established rule that "localities have unquestioned power to regulate the sale and distribution of liquor-not only for protection of morality, but also for health and safety purposes."¹²⁶ They also reflect the rule suggested earlier¹²⁷ that the closer in time to the end of World War I and the adoption of standard time by the federal government,¹²⁸ the more likely the case was to be decided in favor of standard time. The third liquor license case, a 1916 Texas case, is the anomaly.¹²⁹ Without the briefs, it is difficult to be certain why the appellate court decided in favor of solar time.

The last cohesive group of cases is the three "jury verdict at midnight" cases. The first was *Henderson v. Reynolds*,¹³⁰ where the jury began to deliberate at 8:00 p.m. on Saturday night.¹³¹ Shortly before 12:00 midnight the judge asked the sheriff to see if the jury was likely to agree on a verdict before midnight.¹³² The sheriff reported that they

121. *Walker v. Terrell*, 189 S. W. 75 (Tex. Civ. App. 1916); briefs no longer available.

122. *Id.* at 76.

123. *Id.* at 80.

124. *Id.*

125. *Id.*: ("[R]egardless of whether the question was raised by the pleadings in the trial court, that court's ruling upon it is subject to review in this court.").

126. OSBORNE M. REYNOLDS, JR., *HANDBOOK OF LOCAL GOVERNMENT LAW* 634 (2d ed. 2001).

127. *See supra* text and accompanying note 105.

128. *See* 40 Stat. 450-51 (1918) (current version at 15 U.S.C. §§ 261-64 (2002)), *repealed in part by* 41 Stat. 280 (1919) (current version at 15 U.S.C. §§ 261-64 (2002)).

129. *Walker*, 189 S.W.75 (Tex. Civ. App. 1916).

130. *Henderson v. Reynolds*, 10 S.E. 734 (Ga. 1889).

131. *Id.* at 734.

132. *Id.*

were not.¹³³ The judge then informed the jury that because they had not reached a verdict they would have to stay overnight and throughout Sunday, could not discuss the case, and could eat only at their own expense.¹³⁴ The jury was sent back to the jury room and a few minutes later announced that they had reached a verdict.¹³⁵ A motion for new trial was made on numerous grounds.¹³⁶ The eighth ground was essentially that starving the jury was not the appropriate way to ensure a speedy verdict.¹³⁷ "The ninth and tenth grounds complain that the verdict was made and returned on Sunday."¹³⁸ Therefore the issue of solar or standard time came directly into play.

On appeal, the court found that such captivity of the jurors was error and a new trial should have been granted.¹³⁹ "It may have been that the very jurors who were holding out against the proposed verdict were unable to pay for their meals, and therefore agreed to the verdict, rather than go without food until the court should meet again, the next Monday morning."¹⁴⁰ The court also spent considerable time on the argument that the verdict was made and returned on Sunday.¹⁴¹ The judge ran the court on railroad time and so it was midnight when the verdict was announced, which was 12:20 a.m. solar time.¹⁴² While the Georgia Supreme Court did not agree with running the court on railroad (i.e., standard) time, it did think that common sense and respect for the Sabbath required this judge to accept the verdict even if it was past midnight rather than to delay until Monday morning.¹⁴³

The second jury verdict time case is *Parker v. State*¹⁴⁴ where the defendant was found guilty of murder.¹⁴⁵ The defendant claimed that the

133. *Id.*

134. *Id.*

135. *Id.*

136. *Id.*

137. *Id.*

138. *Id.*

139. *Id.*

140. *Id.*

141. *Id.* at 734-35.

142. *Id.* at 734.

143. *Id.* at 735.

It was much better to receive this verdict upon Sunday morning than to keep 12 jurors, and the officers attending them, confined in a room throughout the Sabbath and for nearly 36 hours. It was an act of charity and of necessity to receive this verdict, so that the jurors could return to their homes for rest and refreshment during the night, and, if they so desired, could attend public worship during the day.

Id.

144. *Parker v. State*, 29 S.W. 480 (Tex. Crim. App. 1895).

145. *Id.*

jury verdict was null because it was rendered after the expiration of the court term at midnight on the Saturday of the last week of the term.¹⁴⁶ The defendant contended that standard time should govern; the court was run on solar time measured by the courthouse clock, by which time the verdict was rendered before midnight on Saturday, May 14, 1892.¹⁴⁷ However, witnesses testified that the courthouse clock had been set to a sundial several weeks before and had been losing time since.¹⁴⁸ Their watches, set to standard time, showed that the verdict was handed down at 12:46 a.m. on Sunday, May 15, 1892.¹⁴⁹ Said the court:

We think that the testimony fairly shows that the verdict was received by the court from 12 to 16 minutes before 12 o'clock, and that the sentence was pronounced on defendant from 5 to 10 minutes before 12 o'clock, on Saturday night, the 14th of May, 1892, by the courthouse clock.¹⁵⁰

The court further stated regarding the witnesses who testified as to what their own watches said: "They, too, fail to depreciate their watches as being otherwise than good timekeepers."¹⁵¹ The court adopted true sun time as controlling here even though admitting that the issue had never before been determined in Texas.¹⁵² They cited *Henderson v. Reynolds*¹⁵³ and *Searles v. Averhoff*¹⁵⁴ with approval.¹⁵⁵

The third case is *Texas Tram & Lumber Co. v. Hightower*,¹⁵⁶ a writ of mandamus action to compel the judge to enter the verdict found at trial.¹⁵⁷ In 1901, the Texas and New Orleans Railroad Company brought an action of trespass to try title against the Texas Tram & Lumber Company to recover a parcel of land in the city of Beaumont, Texas.¹⁵⁸ The jury retired to consider its verdict at 8:00 p.m. on Saturday, May 26, 1906, the last day of the court's term.¹⁵⁹ "Before the court was adjourned by the presiding judge at 3 minutes past 12 by railroad time,

146. *Id.*

147. *Id.* at 480-81.

148. *Id.* at 481.

149. *Id.*

150. *Id.*

151. *Id.*

152. *Id.*

153. *Henderson v. Reynolds*, 10 S.E. at 734 (Ga. 1889).

154. *Searles v. Averhoff*, 44 N.W. 872 (Neb. 1890).

155. *Parker*, 29 S.W. at 481.

156. *Tex. Tram & Lumber Co. v. Hightower*, 96 S.W. 1071 (Tex. 1906).

157. *Id.*

158. *Id.*

159. *Id.*

which was at least 15 minutes before 12 p.m. by sun time, the jury came into court and returned a verdict in favor of [Tram]. . . .”¹⁶⁰ The Railroad immediately moved for a new trial stating that the verdict had come too late, relying on railroad or standard time.¹⁶¹ The trial judge, L.B. Hightower, agreed and “determined as a matter of law that the adjournment was controlled by the railroad time, and that the verdict came too late.”¹⁶² The Texas Supreme Court reversed, citing with approval *Curtis v. March*,¹⁶³ *Henderson v. Reynolds*,¹⁶⁴ *Searles v. Averhoff*,¹⁶⁵ *Parker v. State*,¹⁶⁶ and *Rochester Insurance Co. v. Peaslee Gaulbert Co.*¹⁶⁷ The court reasoned:

The railroad time for the section in which Texas is included is not the true time for the particular locality, but the St. Louis time; so that the proposition resolves itself into saying that because the people at Beaumont have adopted in the conduct of their affairs the St. Louis time, when the Legislature declared that the April term of the Sixtieth Judicial District should continue ‘until and including the last Saturday in May,’ the end of the day should be determined by the St. Louis time, and not by the true time, namely, ‘the mean solar time.’ It seems to us the proposition so stated carries with it its own refutation.¹⁶⁸

Once again, a court unequivocally stated that, while the railroad time may be fine for the railroad and for businesses in general, it would not control the court’s affairs.

While each court’s stand on solar time versus standard time undoubtedly played its part in the determination of these three cases, an alternative explanation may simply be that judicial efficiency demanded that the verdicts of these juries be accepted whether they were technically delivered on time or not. To hold these jurors for a day or more, especially on the Sabbath, would have been unreasonable in the circumstances and a waste of the court’s time and money.

The next three cases have no single organizing principle. *Searles v. Averhoff*¹⁶⁹ was in some respects the American version of *Curtis v.*

160. *Id.*

161. *Id.*

162. *Id.* at 1071-72.

163. *Curtis v. March*, 157 Eng. Rep. 719 (Ex. Ch. 1858).

164. *Henderson v. Reynolds*, 10 S.E. 734 (Ga. 1889).

165. *Searles v. Averhoff*, 44 N.W. 872 (Neb. 1890).

166. *Parker v. State*, 29 S.W. 480 (Tex. Crim. App. 1895).

167. *Rochester German Ins. Co. v. Peaslee Gaulbert Co.*, 87 S.W. 1115 (Ky. 1905).

168. *Tex. Tram. & Lumber Co. v. Hightower*, 96 S.W. 1071, 1072 (Tex. 1906).

169. *Searles v. Averhoff*, 44 N.W. 872 (Neb. 1890).

March,¹⁷⁰ and is often cited for its pro-solar time outcome. The defendant was summoned to appear before a justice of the peace at 10 a.m. to defend an action on a promissory note.¹⁷¹ The defendant did not appear.¹⁷² The justice of the peace waited one hour standard time and then rendered a default judgment against the defendant.¹⁷³ Before 11 a.m., common time, the defendant appeared and asked to present his defense but was refused.¹⁷⁴ The defendant then took the case on error to the district court where the decision of the justice of the peace was reversed.¹⁷⁵ The supreme court affirmed.¹⁷⁶

Standard time, however, in Franklin county, where this case was tried, is about half an hour faster than common time. Whether standard time is generally in use in the courts of that place does not appear. The presumption is that common time is that relied upon where there is nothing to show that a different mode of measuring time has been in general use. Where, therefore, the return of a summons is to be made at an hour named, standard time, the summons should so state. Otherwise it will be presumed that common time was intended.¹⁷⁷

Given the early time frame (1890) of this case, its pro-solar time stance is not surprising.

Proctor Coal Company v. Finley,¹⁷⁸ was brought to enjoin defendants from interfering with plaintiffs in the management of a Kentucky coal company.¹⁷⁹ A stockholder meeting was held in Louisville involving two factions of stockholders.¹⁸⁰ The meeting was set for 4:00 p.m. but one faction insisted on starting it at 4:00 sun time which came 18 minutes before 4:00 standard time.¹⁸¹ Business in Louisville was generally conducted on standard time and so numerous local stockholders had not yet appeared.¹⁸² Consequently, after protest from the other Louisville faction, it was agreed to start the meeting and the vote at 4:00 standard time.¹⁸³ Because of this accommodation, the

170. *Curtis v. March*, 157 Eng. Rep. 719 (Ex. Ch. 1858).

171. *Searles v. Averhoff*, 44 N.W. 873 (Neb. 1890).

172. *Id.*

173. *Id.*

174. *Id.*

175. *Id.*

176. *Id.*

177. *Id.*

178. *Proctor Coal Co. v. Finley*, 33 S.W. 188 (Ky. 1895).

179. *Id.*

180. *Id.* at 189.

181. *Id.*

182. *Id.*

183. *Id.*

state supreme court found the time issue irrelevant, or at least unimportant to a determination of the case.¹⁸⁴ Although time determination was ultimately not an issue, the court affirmed that standard time was the “proper time.”¹⁸⁵

In the 1905 North Dakota case of *Orvik v. Casselman*,¹⁸⁶ the defendant appealed from a judgment for plaintiffs in an action to quiet title.¹⁸⁷ Plaintiffs bought land after the mortgage of the previous owner was foreclosed.¹⁸⁸ Defendant attacked the sale because of insufficient publication of the foreclosure notice and because the sale was conducted 28 minutes before the time stated in the notice.¹⁸⁹ The sale was to be held at 2:00 p.m.¹⁹⁰ Standard time was 28 minutes faster than sun time and defendant contended that sun time should govern.¹⁹¹ The Court held otherwise, stating that standard time has “been in universal usage in this state since territorial times. The court takes judicial notice of that usage.”¹⁹² The court went further and distinguished *Henderson*,¹⁹³ *Searles*,¹⁹⁴ and *Jones*,¹⁹⁵ stating that they had no bearing on the case because standard time had not been adopted by usage in those states at the time of the decisions.¹⁹⁶

The final category of cases occurred after passage of the federal statute adopting standard time and daylight saving time.¹⁹⁷ In the first of the two cases, *Briegel v. Day*,¹⁹⁸ decided in New York in 1922, the question before the court concerned the service of a summons and complaint according to daylight saving time instead of standard time.¹⁹⁹ The court upheld use of daylight saving time, which was authorized under state statute and had become a part of standard time in New

184. *Id.* at 191.

185. *Id.*

186. *Orvik v. Casselman*, 105 N.W. 1105 (N.D. 1905).

187. *Id.*

188. *Id.*

189. *Id.*

190. *Id.*

191. *Id.*

192. *Id.* at 1105-06.

193. *Henderson v. Reynolds*, 10 S.E. 734 (Ga. 1889).

194. *Searles v. Averhoff*, 44 N.W. 872 (Neb. 1890).

195. *Jones v. German Ins. Co. of Freeport, Ill.*, 81 N.W. 188 (Iowa 1899).

196. *Orvik*, 105 N.W. at 1106.

197. See 40 Stat. 450-51 (1918) (current version at 15 U.S.C. §§ 261-64 (2002)), *repealed in part* by 41 Stat. 280 (1919) (current version at 15 U.S.C. §§ 261-64 (2002)). See also O'MALLEY, *supra* note 15, at 259 *et seq.* for a history of the passage of daylight saving time.

198. *Briegel v. Day*, 195 N.Y.S. 295 (N.Y. App. Div. 1922).

199. *Id.* at 296.

York.²⁰⁰

In the second daylight saving time case, *Carroll v. City of Bayonne*,²⁰¹ decided in New Jersey in 1924, a new board of commissioners was to take over at noon on May 15, 1923.²⁰² The old board had made a number of last minute appointments to the police and fire departments which the new board decided to rescind.²⁰³ The new board started its meeting at 12:03 daylight saving time, 11:03 standard time.²⁰⁴ The issue was whether their action was timely.²⁰⁵ The court decided that their actions had no validity because standard time ruled and therefore the commissioners were not yet officially in office when they made the rescissions.²⁰⁶ The court did state that the rescission "might have been vitalized by re-enactment, but no such course was taken."²⁰⁷ Judicial efficiency was posited as one interpretation for the verdict-at-midnight cases discussed earlier.²⁰⁸ Judicial inefficiency seems an equally plausible interpretation for this case.

In a time when litigation was not yet as prevalent as it is today,²⁰⁹ and certainly taking cases on appeal was not business as usual, what might prompt such litigation? Often the outcomes depended upon the timing of each particular case, with the later cases favoring standard time as the country moved in that direction in a legislative and commercial way. O'Malley has suggested that the states in which these cases were tried were "hotbeds of rural radicalism and Populist support."²¹⁰ The Populists "rejected the kind of linear, 'industrial' time implicit in the new standards."²¹¹ "Populist writings insisted on nature as the source of time and natural imperatives as guides to using it."²¹² It was not that the

200. *Id.* at 297.

201. *Carroll v. City of Bayonne* 124 A. 613 (N.J. 1924).

202. *Id.* at 614.

203. *Id.*

204. *Id.*

205. *Id.*

206. *Id.* The court held that they were bound by 4 N.J. Comp. St. 1910, at 4879, establishing standard time for all official functions in New Jersey. *Id.*

207. *Id.*

208. See *supra* text and accompanying notes 130-68.

209. J. MYRON JACOBSTEIN ET AL., FUNDAMENTALS OF LEGAL RESEARCH 12 (7th ed. 1998). "During the period from 1658 to 1896 American courts reported 500,000 decisions, and by 1990 there were 4,000,000 reported decisions. . . . it is estimated that over 140,000 cases are now published annually." *Id.*

210. O'MALLEY, *supra* note 15, at 140. Most of the post-1900 cases took place in the midwest, the stronghold of Progressivism, the reform movement that followed Populism. See EISENACH, *supra* note 41, at 68.

211. O'MALLEY, *supra* note 15, at 140.

212. *Id.* at 141.

Populists objected to “machinery-or clocks, or industry, or the railroads-as to the ideas and assumptions about time and progress that governed them.”²¹³ In the 1880s, standard time represented something unnatural, and therefore wrong, to them, and they would have the same reaction to daylight saving time in the immediate post-World War I era.²¹⁴

In all of these cases, other factors and other issues of law weighed as heavily, and often more heavily, than the issue of time’s reckoning. What is remarkable to the modern mind is that time determination was an issue at all. In a number of these cases, it is probably fair to suggest that the solar/standard time conflict was a last ditch effort to win the case, just “buncombe” as it was characterized in *State v. Johnson*.²¹⁵

How did mankind move from prehistoric time where one presumably determined time by looking at the sun to the early twentieth century where one looked to the Interstate Commerce Commission for guidance on the time zone in which he lived? Again, it is important to state the two overarching themes: the legal and the historical.

From a legal perspective, the Legal Process Theory was playing itself out.²¹⁶ Time determination started as a private matter, became a group concern, ultimately required the intervention of society’s arbitrators, the courts, to settle disputes about whose time was the correct time, and finally was settled by the national legislative body, the Congress, who delegated the actual implementation of time zones to an administrative body, the Interstate Commerce Commission.

From a historical perspective, the Progressive era in the United States was the perfect setting for the regularization of time.²¹⁷ The modern, industrial era required that citizens know the time in order to get on with the rest of their increasingly busy lives. Before World War I, courts had ascended to the dominant position among the three branches of federal government and echoing this, state courts had stepped up and tried to resolve time discrepancies among citizen-litigants. Finally, Congress took the reins and established standard time for all the United States.

While the legal viewpoint and the historical backdrop of the turn-of-the-twentieth-century era are critical to understanding what happened

213. *Id.*

214. *Id.* See *infra* text and accompanying note 299 (discussing populism).

215. *State v. Johnson*, 77 N.W. 293, 294 (Minn. 1898).

216. See *supra* text and accompanying notes 31-38 for an explanation of the Legal Process Theory.

217. See *supra* text and accompanying notes 39-42 for a summary of the time determination quest and how it fit in to the American state building of the Progressive era.

with time determination in America, they do not go to the deeper historical, psychological, sociological and emotional roots that run barely submerged under all efforts at telling time. To fully understand what this is all about, that story must be told.

IV. TIME AND HOW IT CAME TO BE²¹⁸

Early man's preoccupation with sustaining his own life and not becoming dinner for the prehistoric animals and other humans who roamed the earth precluded serious consideration of matters related to time.²¹⁹ As survival issues came under better control, man had the opportunity to ponder the sun during the day and the moon at night, as well as the change of seasons and its impact on the length of the day. When man began to engage in agricultural activities, these time-related aspects of nature took on new meaning and importance. Not only did he begin to count the days of the growing and harvest seasons, he became concerned about counting the days of his own lifespan. He was close to nature and nature is very much about time.²²⁰

218. This is an enormously complex topic spanning all human history. For a surprisingly thorough, if necessarily shallow, overview of 580 years of time history, see Nigel Thrift, *Owners' Time and Own Time: The Making of a Capitalist Time Consciousness, 1300-1880*, in LUND STUDIES IN GEOGRAPHY SERIES B HUMAN GEOGRAPHY NO. 48, 56 (1981).

219. Actually, there are competing ideas about this statement. "Time and its measurement have been preoccupations of mankind since the most primitive civilization in all parts of the world, and as his needs and his knowledge increased, so did man's awareness and concepts of time develop. . . ." S.E. Bedini, *Oriental Concepts of the Measure of Time*, STUDY OF TIME II 451 (1975). Further discussion of the nature of primitive man's time consciousness can be found in A.J. Gurevich, *Time as a Problem of Cultural History*, CULTURES AND TIME 229 (1976). But many believe that knowing the time down to the minute is a much more recent preoccupation in the history of mankind. Matteo Ricci, the Jesuit, introduced clocks to China upon his arrival in 1577 but the Chinese showed no particular interest in adopting Western clock technology. Why the lack of interest? According to David Landes, "it was simply not important in China to know the time with any precision. Calendar dates mattered, but neither life nor work had ever been organized on the basis of hours and minutes." LANDES, *supra* note 47, at 44. The history of the creation, improvement, mass availability, and adoption of timepieces is a fascinating study. See generally LANDES, *supra* note 47; DAVA SOBEL, *LONGITUDE: THE TRUE STORY OF A LONE GENIUS WHO SOLVED THE GREATEST SCIENTIFIC PROBLEM OF HIS TIME* (1995).

220. Michael O'Malley, *Time, Work, and Task Orientation: A Critique of American Historiography*, 1:3 TIME & SOC'Y 341, 355 (1992). "Nature narrates time in preindustrial societies." *Id.* Time is perceived in very different ways in different cultures. For example:

African time sensibilities . . . tended to compound all time, past and future especially, into what Kenyan scholar John Mbiti calls "No-time." The net effect of this time orientation, argues Mbiti, is that the "linear concept of time in Western thought, with an indefinite past, present and infinite future, is practically foreign to African thinking."

SMITH, *supra* note 21, at 131. See also, GLEICK, *supra* note 46, at 272 (including more discussion of Mbiti's research on Africans' sense of time). There is a good deal of literature on time sense in other cultures, see, e.g., G.I. Jones, *Time and Oral Tradition with Special Reference to Eastern*

Greater sophistication about perceptions of time and its measurement followed. One example, the creation of the week, suffices to show how such a seemingly simple time measurement device could be so complex. In a book devoted to the history of the week,²²¹ the author, Eviatar Zerubavel, states:

The week is the only major rhythm of human activity that is totally oblivious to nature, resting on mathematical regularity alone. Its invention was one of the first major attempts by humans to break away from being prisoners of nature and create an artificial world of their own, and therefore ought to be regarded as one of the greatest breakthroughs in the history of human civilization.²²²

Zerubavel describes two modern attempts to replace the seven-day week with an alternative. Both attempts failed because the common folk, imbued with religious traditions, would not cooperate. The first attempt was the establishment in France of a ten-day week from 1792-1805 as part of the change wrought by the French Revolution. (The metric system was also established at this time.) Eventually, Napoleon called a halt to the idea. The second experiment took place in Russia with a five-day week from 1929-31 and a six-day week from 1931-40. These shorter weeks were supposed to allow for continuous work force production, but eventually the division between city workers and the resistant country people became too great and the government capitulated and returned to the seven-day week.²²³

Although the modern person takes them for granted, the complexities of working with a seven-day week, a 365 1/4 day year,

Nigeria, VI J. AFR. HIST. 153 (1965); T.C. McCaskie, *Time and the Calendar in Nineteenth Century Asante: An Exploratory Essay*, 7 HIST. IN AFR. 179 (1980); McKenzie, *supra* note 50; DOROTHY PENNINGTON, *Time in African Culture*, ch. 8 in AFRICAN CULTURE: THE RHYTHMS OF UNITY (M.K. Asante and K.W. Asante eds., 1985); Thomas C. Smith, *Peasant Time and Factory Time in Japan*, 111 PAST & PRESENT 165 (1986); Eric Pawson, *Local Times and Standard Time in New Zealand*, 18 J. HIST. GEOGRAPHY 278 (1992). The major focus of the rest of this article is on the way time orientation developed in the West.

221. EVIATAR ZERUBAVEL, *THE SEVEN DAY CIRCLE: THE HISTORY AND MEANING OF THE WEEK* (1985).

222. *Id.* at 4.

223. *Id.* These experiments are described in chapter 2. *Id.* Studies of Russia's dealing with time provide a fascinating tangent to the time story. See Daniel H. Kaiser & Peyton Engel, *Time and Age-Awareness in Early Modern Russia*, 35 COMP. STUDIES SOC'Y & HIST. 824 (1993) (concerning time understanding in the early eighteenth century), John Löwenhardt, *Over Time: Time and Politics in the USSR*, 28 SOVIET GEOGRAPHY 656 (1987) (discussing the Russian successful resistance to Soviet government's imposition of Summer Saving Time in the 1980s); 'Statutory Time' Abolished in USSR, 32 SOVIET GEOGRAPHY 190 (1991). Who knew there was so much resistance to governmental authority in Soviet Russia?

months of odd durations, and the attempts to “correct” these problems, all have an amazingly complex history.²²⁴ There were a number of reform movements in Britain and America in the twentieth century supporting a perpetual calendar, but in the end all have failed because of the supposed violation of religious freedom.²²⁵ Under a perpetual calendar, the Sabbath and the Lord’s Day, traditionally Saturday and Sunday, would start “floating,” a sacrilegious idea to traditionally religious people who therefore balked.²²⁶ Thus the seven-day week remains one of the last “irrational” cornerstones of modern civilization.²²⁷

In medieval Europe, the Catholic Church made good use of time in reinforcing its authority.²²⁸ Thus, church bells would ring to call the faithful to pray at specified times of the day and night.²²⁹ People in the countryside came to rely on the bell ringing as an indication of the

224. ZERUBAVEL, *supra* note 221, at ch. 4.

225. The perpetual calendar had a 364-day (52-week) year, thus necessitating “blank” days inserted to achieve the 365 1/4 day year. Such blanks would interfere with the standard calculation of the Sabbath. See ZERUBAVEL, *supra* note 221, at 69, 81.

226. *Id.* at 81.

With one “blank” day (or two, in leap years) being excluded from the annual reckoning of weeks, the Sabbath, for example, would necessarily drift back one or two days every year, essentially becoming a “floating,” “migrating,” “nomad,” or “wanderer” that might fall on just any day of the week. That, of course, would have been a preposterous idea for any traditionalist, for whom the Sabbath and the Lord’s Day had always been synonymous with Saturday and Sunday.

Id.

227. ZERUBAVEL, *supra* note 221, at ch. 4.

228. O’Malley, *supra* note 220, at 346.

Preindustrial Europe derived its sense of what time *was* from nature—from using natural signs, like the sun, moon and seasons as indications of time’s passage. But its sense of how to *use* time came in large degree from the church, or from a blend of religion and folkloric custom. In every European community, a church-established calendar of holy days gave careful prescriptions on how time should be arranged.

Id.

229. See LANDES, *supra* note 47, at ch. 3 for a description of the time discipline imposed on monks by the Church. The situation in England is described by E.P. Thompson:

It is by no means clear how far the availability of precise clock time extended at the time of the industrial revolution. From the fourteenth century onwards church clocks and public clocks were erected in the cities and large market towns. . . . [T]he sundial remained in use (partly to set the clock) in the seventeenth, eighteenth and nineteenth centuries.

Charitable donations continued to be made in the seventeenth century . . . for the ringing of early morning bells and curfew bells.

E.P. Thompson, *Time, Work-Discipline, and Industrial Capitalism*, 38 PAST & PRESENT 56, 63 (1967). Mark M. Smith describes a similar situation in early America. Church bells, which could be heard for long distances even in the noisy urban north, communicated religious, natural, and civic time. SMITH, *supra* note 21, at 44. “God’s time and the various civic functions it served, then, punched its way both aurally and visually into the minds and ears of all southerners.” *Id.*

segment of the day. The ringing of the church bells would cause work to start and stop in the fields.²³⁰

Holy days and holidays often occurred around certain natural agricultural events.²³¹ Time was God and God was time.²³²

Protestant faiths carried these connections between nature, time management and control even further, particularly in England and America.²³³ Max Weber argued: "It [time] is infinitely valuable because every hour lost is lost to labour for the glory of God. Thus inactive contemplation is also valueless, or even directly reprehensible if it is at the expense of one's daily work."²³⁴ At the dawn of the Industrial Revolution in America, each village, city, town, and farm kept its own local time based on sun time. Natural time (shown by the sun) as opposed to mechanical time (shown by clocks) reflected the conflict between religious authority and secular authority²³⁵ and also between religion and science.²³⁶ These conflicts would continue into the twentieth century.

In the pre-industrial era, time was irregular, something

230. O'Malley, *supra* note 220, at 347.

In many cases, the same bells, calendars and schedules that governed monastic prayer regulated the laborer's day. . . . The Church calendar merged the abstract idea of "Time" with the "social time" of everyday affairs and seasonal tasks: religion, and not simply natural, seasonal cycles alone, gave time its bite in daily life.

Id. David Landes points out that the medieval peasant came to resent the controllers of the bells and many of them were motivated to learn to count by the bells of the clock. LANDES, *supra* note 47, at 74-82. Knowing the time and how to tell time gave medieval man a sense of power whereas to modern man the luxury of ignoring time (as on vacation) gives a sense of power. *Id.*

231. O'Malley, *supra* note 220, at 346.

232. BLAISE, *supra* note 16, at 19. "Standard time served most of the functions of God; it set the standards of trade and commerce, of justice and mercy." *Id.* "Time . . . is like a loan from God: men and women have an obligation to use it wisely, to 'improve the time,' as the Puritans put it." O'MALLEY, *supra* note 15, at ix.

233. "In the seventeenth century both New England clergymen and magistrates thought of time as a holy attribute and urged its productive use by appealing to Puritan theology." Paul B. Hensley, *Time, Work, and Social Context in New England*, 65 NEW ENG Q 531, 533 (1992). "We are entering here, already in 1700, the familiar landscape of disciplined industrial capitalism, with the time-sheet, the time-keeper, the informers and the fines." Thompson, *supra* note 229, at 82. "Southern merchants, like northern and British Protestants and puritans, for reasons secular and sacred, loathed to lose time." SMITH, *supra* note 21, at 42. "The connection of time to nature, and thus to God, that almanacs reinforced points to an American obsession with time, its measurement, and its proper use." O'MALLEY, *supra* note 15, at 16.

234. SMITH, *supra* note 21, at 41, citing MAX WEBER, *THE PROTESTANT ETHIC AND THE SPIRIT OF CAPITALISM*, 158 (1905, 1970). Smith does note numerous challenges to Weber's thesis. *Id.*

235. O'MALLEY, *supra* note 15, at 8-9.

236. "Throughout the nineteenth century, religion and science proved themselves the oil and water of modern culture." KLOPPENBERG, *supra* note 22, at 24.

approximated by scrutinizing natural clues, but regularity became the hallmark as mechanized clocks took over.²³⁷ In an industrial society, and one dominated by the sense of Puritan time thrift,²³⁸ as well as the “ethos of self-control in the emerging middle class,”²³⁹ time became a commodity to be bought and sold.²⁴⁰

But who in the newly industrialized American society of the early nineteenth century determined what time it was?²⁴¹ This was an important question because employers and employees distrusted one another to be the sole arbiter of time.²⁴² This was not just a problem in

237. “Where time had been an abundant resource that suffered squandering at the beginning of the nineteenth century, it became a scarce one that required husbanding.” Martin Bruegel, *‘Time that can be relied upon.’ The Evolution of Time Consciousness in the Mid-Hudson Valley, 1790-1860*, 28 J. SOC. HIST. 547, 548 (1995).

238. E.P. Thompson summed it up well:

In all these ways—by the division of labour; the supervision of labour; fines; bells and clocks; money incentives; preachings and schoolings; the suppression of fairs and sports—new labour habits were formed, and a new time-discipline was imposed. . . .

. . . .
Throughout the nineteenth century the propaganda of time-thrift continued to be directed at the working people, the rhetoric becoming more debased, the apostrophes to eternity becoming more shop-soiled, the homilies more mean and banal. In early Victorian tracts and reading-matter aimed at the masses one is choked by the quantity of the stuff. . . . [Re leisure:] This, clearly, was worse than Bingo: non-productivity, compounded by impertinence. In mature capitalist society all time must be consumed, marketed, put to use; it is offensive for the labour force merely to “pass the time.”

Thompson, *supra* note 229, at 90-91.

239. Bruegel, *supra* note 237, at 554.

240. Time as property goes back a long way. As Landes points out, in China in the sixteenth century, time as private property was anathema because all property belonged to the Emperor. LANDES, *supra* note 47, at 52. And if it belonged to the Emperor, why bother to measure it, keep track of it, etc.? *Id.* Smith notes: “But before merchants could reduce time to money, they had to break free from Christian imperatives stressing that all time belonged to God.” SMITH, *supra* note 21, at 63. And, of course, in the antebellum South, “[t]ime, after all, was the master’s, as it had to be in a slave society.” *Id.* at 7.

241. Time in its many disguises is part of the great debate over the just derivation of power. Who “owns” time? That is, who holds the ultimate right to negotiate its value—the worker or the boss? The tenant or the lord? The merchant or the priest? Elected officials or an inherited elite? Why are some born slaves to time, and others released entirely from its constraints?

BLAISE, *supra* note 16, at 22.

242. Labor disputes in the 1830s erupted over the conflict between using the employer’s bell to start and stop the workday or using the employees’ watches. See Bruegel, *supra* note 237, at 557 (discussing such a labor dispute in Catskill, New York); Hensley, *supra* note 233, at 531 (discussing a New Hampshire labor dispute). In the south, Smith described the conflict thus:

On some important points, then, industrial capitalists and antebellum slave owners sometimes agreed: both harbored, to varying degrees, a distrust and suspicion of workers, slave and free. Neither laborer, so it seemed, would work diligently unless coerced to some extent, and a monopoly over time, who owned it, and who set its value helped ensure this control.

the urban industrial North. Slaves, the predominant labor force in the antebellum American South, were not allowed to learn to tell time just as they were not allowed to learn to read and write.²⁴³ It would have been too dangerous to allow them so much control. In the North, factory owners kept the clock although workers were often suspicious of the accuracy of the timekeeper.²⁴⁴ As the production of watches grew in post-Civil War America, employees became their own timekeepers. Clock discipline finally came into its own.²⁴⁵ "The way people used time was central to the way society judged them. Deviation from the standards of public time, like deviation from established morality, marked the dissenter as a danger."²⁴⁶

Exactly how was time determined? Solar time, or apparent time, could be determined by the sun's position on a sundial.²⁴⁷ When an observer noted the sun reaching its highest point in the sky, it was noon. However at different times of the year the sun would pass at a higher or lower point in the sky. "Astronomers call this annoying habit the sun's *declination*."²⁴⁸

The situation became more problematic when clocks were created,²⁴⁹ because clocks could not follow these seeming irregularities of the sun's movement and, therefore, gave an average, or *mean time*.²⁵⁰ Obviously, great potential existed for conflict between God's time and man-made time. Essentially, God's time is sun time. It varies in

SMITH, *supra* note 21, at 6.

243. SMITH, *supra* note 21, at 133-36 (discussing fear of insurrections if slaves could tell time). Inevitably some slaves learned to tell time, especially cooks who had to follow timed recipes. *Id.* at 144-45. A slave woman in Natchez held a "midnight school" from 11:00 p.m. to 2:00 a.m. to teach other slaves to read and write. *Id.* She could do this only because she could tell time. *Id.*

244. O'MALLEY, *supra* note 15, at 30. "The watch itself . . . becomes the authority for time, and its owner derives power from ownership." *Id.*

245. *Id.* at 23. "No substantial domestic watch industry appeared before the Civil War." *Id.* However, Smith argues that time orientation came to the antebellum South in the 1840s. SMITH, *supra* note 21, at 68.

246. O'MALLEY, *supra* note 15, at 72. For an extended discussion of the impact of factory time on nineteenth century American family life, see Allan Pred, *Production, Family, and FreeTime Projects: A Time-Geographic Perspective on the Individual and Societal Change in Nineteenth-Century U.S. Cities*, 7 J. HIST. GEOGRAPHY 3 (1981).

247. Every method of telling time has had its critics. Take the ancient Roman playwright, Titus Maccius Plautus. "Plautus had cursed the most advanced time-slicing technology he knew, the sundial: 'The gods confound the man who first found out how to distinguish hours! Confound him, too, who in this place set up a sundial to cut and hack my days so wretchedly into small portions!'" GLEICK, *supra* note 46, at 44, quoting Aulus Gellius, *Noctes Atticae*, 3.3.

248. O'MALLEY, *supra* note 15, at 3.

249. For more about timepieces created throughout the history of the world, see LANDES, *supra* note 47.

250. O'MALLEY, *supra* note 15, at 3.

infinitely small increments around the longitude of the world. Sun time in Chicago is different from sun time in a suburb ten miles west of Chicago. A sundial in the suburb would show the difference when compared to a sundial in Chicago. But small increments of sun time create difficulties in communication and coordination across geography. And so, man-made time was created.

Standard time took things a step further, both in efficiency and in conflict.²⁵¹ The earth was divided into 24 time zones, each approximately 1,000 miles at the equator or 15 degrees of longitude wide at all latitudes.²⁵² The time for the entire zone was determined at a point midway in the zone. This worked well for that middle area but became more annoying at the edges of the zone where standard time might vary from sun time by as much as 66 minutes.²⁵³

Much of nineteenth century American history is dominated by the history of the railroads.²⁵⁴ This is particularly true with respect to American time history. "Between 1840 and 1860 total American railroad mileage increased more than ten times, while average speeds doubled."²⁵⁵ This was an exciting era, one in which Henry David

251. Standard time has been defined as time based upon a certain definite meridian that is adopted by law or usage as the time meridian for a more or less wide extent of country, in place of the various meridians upon which local mean time is based. Its advantage is that neighboring communities or places keep exactly the same time, instead of differing by a few minutes or seconds according to their difference of longitude, a matter of especial importance in connection with the operation of railroads and telegraphs, or the transaction of any business wherein contracts involve any definite time limits.

No. 10122. Standard Time Zone Investigation, 51 I.C.C. 273, 278 (1918). "Of all the inventions of the Industrial Age, standard time has endured, virtually unchanged, the longest. . . . Arguably, standard time has exercised the deepest influence on everything to come afterwards." BLAISE, *supra* note 16, at 12.

252. BLAISE, *supra* note 16, at 8.

253. Bartky, *supra* note 25, at 52-53.

254. "Railroads emboldened us. . . . It is the perception of movement on all fronts, like skittering pond life, that defined the last two-thirds of the nineteenth century, and it is the railroad that lends itself as the single most conspicuous symbol of the Industrial Age." BLAISE, *supra* note 16, at 138. See also SMITH, *supra* note 21, ch. 3, and Zerubavel, *supra* note 16. Analogies have been drawn between the transportation revolution of the nineteenth century and the Internet revolution of the twentieth century. See, e.g., Jason Zweig, *Baloney.com Don't Believe the Hype About Internet Stocks and Funds*, MONEY 63-66 (May 1999). In fact, all the new technologies of the late nineteenth century eventually are compared to the Internet. See also TOM STANDAGE, *THE VICTORIAN INTERNET: THE REMARKABLE STORY OF THE TELEGRAPH AND THE NINETEENTH CENTURY'S ON-LINE PIONEERS* (1998).

255. O'MALLEY, *supra* note 15, at 61. See also, STEPHENS, *supra* note 28, at 9th unnumbered page:

Railroad and telegraph lines spanned the continent with amazing speed. Only 23 miles of track had been laid in the United States by 1830; by the end of the Civil War, the number had grown to 35,000 miles; and on the eve of the adoption of Standard Railway

Thoreau said that men talked and thought faster due to the electrifying effect of the railroad.²⁵⁶ When the railroad was a relatively small, localized operation, keeping schedule according to the local sun time of the towns the train travelled through was not overly problematic. But as the railroad grew, the use of local times became increasingly complex.²⁵⁷ People did not know when to expect trains to arrive or depart and there were safety issues involved with so many more trains using the same tracks.²⁵⁸ Finally, in 1883, all the American railroad companies agreed to run on standard time, with the continental United States divided into four time zones.²⁵⁹ In 1884, the Prime Meridian Conference was held in Washington, D.C., and a world delegation determined that standard time would be adopted. The world would be divided into 24 time zones, and Greenwich would be the prime meridian.²⁶⁰ While the world had now adopted standard time, there was still considerable resistance to its enforcement in many locations including the United States.²⁶¹

At the turn of the century there were technological advances in transportation, communication, and every facet of the way people in the

Time there were over 93,000 miles. Telegraph lines—cheaper and easier to erect—spread even quicker. Between 1847, when the telegraph was commercially introduced, and 1860, 50,000 miles of wire went into operation; by 1880, 31,703,000 messages a year flashed over 291,000 miles of wire.

Id.

256. O'MALLEY, *supra* note 15, at 68.

257. *Id.* at 73. But see Bartky, *supra* note 25, at 34, who insists it was not the railroad but "the need for a uniform system in geophysics—for simultaneity of observations—that led to the adoption of standard time in the United States."

258. Stephens, *supra* note 1, at 17-21; BLAISE, *supra* note 16, at 72. But, Ian Bartky insists that no traveler was confused—all they had to do was ask. Bartky, *supra* note 25, at 33.

259. O'MALLEY, *supra* note 15, at 140. "Standard time advanced with all the weight and momentum of industrial progress, and its opponents were clearly out of step with prevailing opinion in most published sources." *Id.* For a description of the day, Sunday, November 18, 1883, that standard time was adopted, see *id.* at chapter 3: "The Day of Two Noons."

[T]he railroad became the arbiter of time as of so much else in the nation and in the South. . . . Yet there was no guarantee the trains could always adhere to their own standard. . . . The train, everyone came to realize, lived according to a schedule that suited the system, the mechanism. The locomotive passed through nearly a thousand Southern counties but it belonged to none of them.

EDWARD L. AYERS, *THE PROMISE OF THE NEW SOUTH: LIFE AFTER RECONSTRUCTION* 12 (1992) (footnote omitted).

260. BLAISE, *supra* note 16, at 212. "A great hinge had creaked shut and the world had been fundamentally altered. Sundial time was banished, a sophisticated abstraction had taken its place. Not a penny was spent, not a drop of blood spilled." *Id.* See *id.* at 194, for a description of the Prime Meridian Conference of 1884.

261. SMITH, *supra* note 21, at 92. "Not all, however, relished the temporal control the railroads in particular, the agents of time consciousness generally, imposed on society." *Id.* Such feelings went back to the days of *Curtis v. March*, this 1858 British case is considered in the text accompanying note 8.

western world lived and worked.²⁶² The pace of change had quickened²⁶³ and it was measured by the ever-improving, increasingly available²⁶⁴ timepieces which facilitated an unprecedented time orientation.²⁶⁵ Awareness of time speeded up change and change motivated an addiction to the awareness of time.²⁶⁶ The 19th century perceived itself as moving faster than ever before, and not just on trains. An unrelenting haste began to permeate American life.

So why would these sophisticated, modern individuals with their eyes on their watches and their ears tuned to the train's whistle tolerate life in a society where some people still told time by the sun while others relied on watches and some jurisdictions relied on solar time while others ran by railroad (standard) time? Because the urban sophisticates were just one of many groups living in America at the turn of the twentieth century and telling time was only one of many social issues with which this country was grappling.

V. THE DARKER SIDE: AMERICA, 1870-1914

Always there was a darker side to the exciting and monumental changes wrought during this period. "Americans in a basic sense no longer knew who or where they were. The setting had altered beyond their power to understand it, and within an alien context they had lost themselves."²⁶⁷ In the immediate post-Civil War period, America was a nation of small communities and small businesses where neighbors were

262. KERN, *supra* note 22, at 110. "There was no question that the pace of life was greatly accelerated, but there was sharp debate about the meaning and value of speed." *Id.*

263. *Id.* at 88. "The world was racing into the future like the *Titanic* into the North Atlantic, and those who looked ahead foresaw both shipwreck and the wonders of time travel." *Id.*

264. *Id.* at 111. "The new profusion of watches was a response to, as well as a cause of, a heightened sense of punctuality in this period, especially in urban centers." *Id.* O'Malley relates the story of the popularity of watches increasing after the Civil War as their prices went down and their availability from mail order businesses like Sears Roebuck and Montgomery Ward increased. O'MALLEY, *supra* note 15, at 183.

265. O'MALLEY, *supra* note 15, at 256. "Modern life," the pioneering sociologist Thorsten Veblen observed in 1916, "goes by clockwork." *Id.* "The railroad and the telegraph, more than any previous factors, underscored the time-related values of punctuality and speed and nudged those values higher in the 19th-century American consciousness." Stephens, *supra* note 1, at 2-3.

266. "The age had its doubts and hesitations, but it was essentially characterized by hubris that ignored the warning messages and pushed the throttle full speed ahead." KERN, *supra* note 22, at 108.

267. ROBERT H. WIEBE, *THE SEARCH FOR ORDER 1877-1920* at 42-43 (1967). See also Kenneth Cmiel, *Destiny and Amnesia: The Vision of Modernity in Robert Wiebe's THE SEARCH FOR ORDER*, 21 REV. IN AM. HIST. 352 (1993) (characterizing Wiebe's book as "a much sadder book than is normally thought, one that paints a rather grim, even bleak, picture of life in the twentieth century.") *Id.*

known and hierarchies understood.²⁶⁸ But that “nation of loosely connected islands”²⁶⁹ changed as railroads and businesses expanded. Big business, ultimately requiring regulation,²⁷⁰ came into its own.²⁷¹

The 1870s were dominated by a six year economic depression, triggered by the railroads no longer attracting long term investments.²⁷² Economic depressions were something people tended to view as a moral judgment.²⁷³ The exhilaration, or at least relief, that had come with the end of the Civil War had changed during Reconstruction. “Out of this process [Reconstruction] had come a haunting sense of the war’s failure, a vague feeling of political betrayal.”²⁷⁴

As Robert Wiebe suggests in his book, *The Search for Order, 1877-1920*, average Americans continued to try to solve problems with a pre-Civil War mentality, not recognizing that the world had drastically changed.²⁷⁵ One of many examples of this was railroad management.

[D]espite a past strewn with disappointment, railroad executives continued to lay track they did not want to build, engage in rate wars they had wished to avoid, and count on a perpetual prosperity that

268. WIEBE, *supra* note 267, at 2.

269. *Id.* at 4.

270. Interstate Commerce Act, ch. 104, 24 Stat. 379 (Feb. 4, 1887) (current version at 49 U.S.C. §§ 1-22, 25-27, 153, 301-302, 314-327, 901-923, 1001-1022), and Sherman Anti-Trust Act, ch. 647, 26 Stat. 209 (July 2, 1890) (current version at 15 U.S.C. §§ 1-7).

Then in 1887 Congress passed the Interstate Commerce Act, an evasive measure that ostensibly outlawed pooling and a number of discriminatory practices. Because the law did not seriously restrict railroads, some executives actually welcomed it as a protective cover. Nevertheless, the mere passage of such an act through a Congress of the late nineteenth century indicated the breadth of antagonism toward the iron autocrats.

WIEBE, *supra* note 267, at 53-54. See also RICHARD HOFSTADTER, *THE AGE OF REFORM* 233-34 (1955). “From the very beginning, at any rate, when the Sherman Anti-Trust Act was passed in 1890, it was recognized by most of the astute politicians of that hour as a gesture, a ceremonial concession to an overwhelming public demand for some kind of reassuring action against the trusts.” *Id.* at 245. See also EISENACH, *supra* note 41, at 156-61, (discussing the ineffectiveness of these two laws).

271. WIEBE, *supra* note 267, at 40. Wiebe describes a “segmented morality:” piety on Sunday and then animal cunning in the business world during the week. *Id.* In response to industrial growth, Americans, “in a time of confusion . . . responded with a quantitative ethic that became the hallmark of their crisis in values. It seemed that the age could only be comprehended in bulk. Men defined issues by how much, how many, how far. . . . [T]he cult of the millionaires arrived.” *Id.*

272. *Id.* at 1.

273. *Id.* at 2. “In a nation geared to promotion and expansion, stagnant years had traditionally carried a special frustration. They were literally soul-searching times, for throughout the nineteenth century a great many looked upon economic downturns as a moral judgment, precise punishment for the country’s sins.” *Id.* There would be another, far worse depression in the international economy in the early 1890s. See AYERS, *supra* note 259, at 283.

274. WIEBE, *supra* note 267, at 5.

275. WIEBE, *supra* note 267.

would never come. What seemed to them a series of rational responses added up to an utterly irrational industrial policy that courted danger for large portions of a dependent economy.²⁷⁶

The Great Railroad Strike of 1877 exemplified the strangeness of the time.²⁷⁷ In July 1877, the management of the Baltimore and Ohio Railroad announced another in a series of wage cuts that set off a wildcat strike that spread across the country.²⁷⁸ "In the towns, people expressed a rather orderly hostility to the roads. But in the cities crowds gathered and milled, clashed with trigger-happy vigilantes and militia, then drifted downtown to riot and loot."²⁷⁹ Federal troops were called out, the rioting put down, and then the event was quickly dismissed as "no more than a bad memory"²⁸⁰ as Americans resumed their relentless pace, "building, growing, expanding."²⁸¹

In the 1880s the railroads continued to expand, but now like the rest of the business world, had to contend with the growth of unions.²⁸² "[M]embership in the Knights of Labor [swelled] from 50,000 in 1884 to more than 700,000 in 1886."²⁸³ The sons and grandsons of Irish and German immigrants were assuming their place in the American world of work and they were not so malleable: "A docile generation was giving way to a demanding one."²⁸⁴

By 1891, 40 percent of railroads were in receivership, obviously posing a huge problem for the American economy.²⁸⁵ J.P. Morgan, the

276. *Id.* at 19.

What was true of business in general applied as well to banking. . . . With intuitive methods for gauging the business cycle and rule-of-thumb measures for evaluating credit risks, [bankers] relied on stabs of shrewdness, not long-range wisdom, in conducting their affairs. Bankers at all levels strained to comprehend an increasingly complex, impersonal operation.

Id. at 21. "In fact, at one time or another in the decade following the war, portions of every sector of the American population felt defrauded by bankers." LAWRENCE GOODWYN, *THE POPULIST MOMENT: A SHORT HISTORY OF THE AGRARIAN REVOLT IN AMERICA* 13 (1978). For a particularly lucid description of the currency problems during the Civil War and the use of the gold and silver standard versus the use of paper money (greenbacks because of the green ink). See *id.* at 10-12.

277. This account is taken from WIEBE, *supra* note 267, at 10.

278. *Id.*

279. *Id.*

280. *Id.*

281. *Id.*

282. WIEBE, *supra* note 267, at 44-45: There were "two bursts of railroad construction, one following 1879 and the other 1885, which together produced more trackage than any comparable period in American history." *Id.* at 47.

283. *Id.* at 44-45.

284. *Id.* at 50.

285. *Id.* at 26. See also EISENACH, *supra* note 41, at 158:

Even with the gold standard to guarantee steady flows of foreign investment and the

financier,²⁸⁶ provided an elegant and simple solution.

By and large the receiverships did not reflect economic disaster. In an effort to entice investors during the prosperous years, many railroads had financed their expansion through bonds with payments enforceable at law, and now sudden hard times led them to pass a dividend. . . . [T]hey entered a technical bankruptcy . . . [and] reorganized the corporations by paring the bonded debt and weighting their finances with common stock. For the first time in a depression capitalists had appreciable money to invest. . . . The economy's surplus had brought power—and very handsome fees—to a small pocket of investment bankers, whose reorientation of a fundamental industry pointed toward broad changes in the structure of business.²⁸⁷

While the focus has been on the railroads as an example of the changes sweeping America in the post-Reconstruction era of the 1870s-80s, the same unrest, uneasiness and searching for a redefinition took place in other industries, in town and country, within established communities and immigrant enclaves.

The agrarian myth had taken hold in America by the early nineteenth century.²⁸⁸ But after the Civil War, farmers' children left their family farms in increasing numbers to seize the opportunities and embrace the excitement of the newly emerging cities, prompting laments from traditionalists. "In the imagery of these appeals the earth was characteristically a mother, trade a harlot, and desertion of ancestral ways a betrayal that invited Providential punishment."²⁸⁹ Despite the agrarian myth which gripped the American imagination well into the

establishment of the Interstate Commerce Commission (ICC) in 1887 to override state beggar-thy-neighbor competition for low rates, such were the statutory ambiguity and the multiple demands placed on the Commission by regional competition for low rates that railroad bankruptcy was the norm. And, until the ICC was given substantial new authority in 1906 and 1910, it fell to masters appointed by federal bankruptcy judges to restructure by fiat entire regional and national systems of rail transportation.

Id. at 158 (footnotes omitted). See SKOWRONEK, *supra* note 42, at 248-284, for an account of the reconstituted Interstate Commerce Commission and its regulation of the railroads after World War I.

286. MARTIN GILBERT, *1 A HISTORY OF THE TWENTIETH CENTURY* 43 (1997). Of J.P. Morgan, "[t]he British philosopher Bertrand Russell . . . wrote: 'Edward VII, the Kaiser, and the Pope, entertained him as if he were a visiting monarch' [T]he answer to 'Who made the world?' was 'God made the world in 4004 BC, but it was reorganized by James H. Hull, J. Pierpont Morgan and John D. Rockefeller.'" *Id.*

287. WIEBE, *supra* note 267, at 26.

288. See HOFSTADTER, *supra* note 270, at 23-36 (examining the "Yeoman and the Myth").

289. *Id.* at 33. "Here was the irony from which the farmer suffered above all others: the United States was the only country in the world that began with perfection and aspired to progress." *Id.* at 35-36.

twentieth century, the reality of farm life, especially post-Civil War was far from benevolent.²⁹⁰ The crop lien system, especially prevalent in the South, was a particularly pernicious form of servitude.²⁹¹ The proceeds from a farmer's crops were never quite enough to cover what he owed the furnishing merchant who loaned the farmer enough money at usurious interest rates to put in his crop each year and otherwise barely subsist. The deep humiliation suffered by these farmers over decades eventually fueled the Populist movement.²⁹²

From 1870 to 1910, the population of the United States increased two and one-third times, and most of that growth took place in urban environments among the new middle class.²⁹³ Cities grew rapidly in the United States between 1860 and 1910.²⁹⁴ They filled with rural people and immigrants and being so new, they were not effectively managed.²⁹⁵ The cost of living in the United States rose 35 percent between 1897 and 1913; this was particularly problematic for laborers with stagnant wages and only fed the growth of labor unions.²⁹⁶ This was the dawn of muckraking journalism: "It was muckraking that brought the diffuse malaise of the public into focus."²⁹⁷

The general restlessness led to reform movements in the 1890s, notably the Populist movement²⁹⁸ and, after the turn of the century, the

290. *Id.*

291. See GOODWYN, *supra* note 276, at 20-25. See also, AYERS, *supra* note 259, chs. 8 and 9 (describing the life of Southern farmers and the political alliances that eventually grew up in response to the evils of the crop lien system). For a different perspective on the problem, see EISENACH, *supra* note 41, at 181.

The curse of the post-Civil War South was its gradual reenslavement of the freedmen and poor whites in the grinding poverty of agricultural tenancy and subsistence farming. Every decade after the war ended, the number of farms in the southern states increased, and every decade per capita income fell relative to the national average. In contrast, agriculture in both the "old" and the "new" Midwest was thriving in partnership with the new corporations. Farms were declining in numbers and rapidly and systematically increasing their productivity. From the 1870s onward, both materially and morally, they were becoming an integral part of the new industrial economy.

Id.

292. GOODWYN, *supra* note 276, at 26. "How to cope with the lien system? Some of the farmers decided politics was the answer and they tried to lead the order into the Greenback Party." *Id.*

293. HOFSTADTER, *supra* note 270, at 217-18.

294. *Id.* at 174.

295. *Id.* at 175.

296. *Id.* at 168-69.

297. *Id.* at 187. "Corruption thus became a particularly fine issue for the moral energies of the Progressive. He was ready to be convinced that the country was thoroughly wicked, and the muckrakers supplied him with a wealth of plausible evidence." *Id.* at 212.

298. Richard Hofstadter defines Populism as more than just the Populist party of the 1890s; it was a "popular impulse that is endemic in American political culture. . . . that expressed the

Progressive movement.²⁹⁹ "Populism appeared to gain strength with each election. . . . [T]he party won almost 10 percent of the Presidential vote in 1892; . . . two years later its total vote rose by nearly 50 percent, and for the first time it captured a Southern state."³⁰⁰ Populism, a rural phenomenon, tended to be popular with the "little guy," the one who felt cheated by the growing successes of the industrial barons.³⁰¹ Again Wiebe is instructive in his description of the 1890s.³⁰²

Anxiety, like the common cold, was a most egalitarian malady which in many respects ran the same course wherever it struck. Men in formal authority, equally disturbed by their sprawling, impersonal society, also reached out for that essential, elusive mastery. Like the protectors of the community, they underwent a basic shift in outlook which converted incidents into series, giving their worries that same cumulative, self-fueling quality. . . .

In the baldest sense, they came to fear that the people might rule. Individualism, except as a mode of implicit contempt for the scattered

discontents of a great many farmers and businessmen with the economic changes of the late nineteenth century." HOFSTADTER, *supra* note 270, at 4-5.

299. HOFSTADTER, *supra* note 270, at 4. Progressivism, as defined by Richard Hofstadter, is not just the Progressive Party, but:

[T]hat broader impulse toward criticism and change that was everywhere so conspicuous after 1900, when the already forceful stream of agrarian discontent was enlarged and redirected by the growing enthusiasm of middle-class people for social and economic reform. . . . Its general theme was the effort to restore a type of economic individualism and political democracy that was widely believed to have existed earlier in America and to have been destroyed by the great corporation and the corrupt political machine; and with that restoration to bring back a kind of morality and civic purity that was also believed to have been lost.

Id. at 5-6. *But see* Rodgers, *supra* note 39, at 114 (outlining numerous attempts by historians to define progressivism). "Only by discarding the mistaken assumption of a coherent reform movement could one see the progressives' world for what it really was: an era of shifting, ideologically fluid, issue-focused coalitions, all competing for the reshaping of American society." *Id.* at 114. *See also* KLOPPENBERG, *supra* note 22, at 10. "As political theories and political movements, the American and European varieties of social democracy and progressivism were too multifaceted and dynamic to be contained neatly within generalizations drawn from twenty or even several hundred individuals." Kloppenberg does however take a stab at defining progressivism. KLOPPENBERG, *supra* note 22. He notes that there were at least four different strains: 1) the political reformers who wanted to streamline government; 2) the antimonopolists; 3) the nativists and prohibitionists; and 4) those with "social consciousness" who felt the individual had a "social duty" and that government existed for the "common good." *Id.* at 311. The reformist impulses of these four groups were often at odds. *Id.* at 300. Kloppenberg also emphasizes the graduated or progressive income tax as the "central doctrine of progressivism," and "the quintessential progressive reform". *Id.* at 300, 355.

300. WIEBE, *supra* note 267, at 90.

301. *Id.* at 85.

302. WIEBE, *supra* note 267, at 76-77.

sheep below, almost always referred to the rights of an elite to retain what they held and to acquire more; cohesion meant an imposed order, one that would necessitate a sharp-edged enforcement.³⁰³

The Pullman strike of 1894 in which Chicago railroad workers, members of the American Railway Union under Eugene Debs, paralyzed the hub of the nation's railroads, was effectively put down by the newly formed coalition of "men in formal authority."³⁰⁴ "The basic new machinery—an employers' association, an alert national executive, strategically placed troops, and an amenable judiciary—had combined to crack the boycott and smash the union."³⁰⁵

The Republican candidate, William McKinley, won the presidential election of 1896, signalling the death of Populism and momentarily stalling the reform movement impulse.³⁰⁶ From 1895-1905, a new middle class arose, dividing itself among professionals, businessmen, and big farmers. Neither the poor lower class nor the rich upper class was particularly sympathetic to this new middle class.³⁰⁷ "Members of the new class announced their bold visions too loudly and exposed too often the shadows on their own bright faith."³⁰⁸ It was the vigorous middle class that would usher in the Progressive movement in the first decade of the twentieth century.³⁰⁹

Several points in this more general history of the period strike a chord in the history of time. One concern is the developing view of the human personality. "Despite some borrowing from recent European philosophy, faculty psychology as Americans employed it was rooted fundamentally in this Christian tradition of God and the Devil struggling for man's soul."³¹⁰ This echoes the conflict over sun time (God's time) versus man-made clock time.

This was the era of American behaviorism, scientific management, pragmatism, the scientific method, bureaucracy, and the social gospel.³¹¹

303. *Id.*

304. *Id.* at 76, 91.

305. *Id.* at 92.

306. *Id.* at 104-05. "Throughout America a residual fear had shrunk the outer limits of optimism." *Id.* at 110.

307. *Id.* at 130.

308. *Id.* at 132. "They had enough insight into their lives to recognize that the old ways and old values would no longer suffice. Often confused, they were still the ones with the determination to fight those confusions and mark a new route into the modern world." *Id.*

309. *Id.* at 208. "Progressivism reached floodtide around 1912." *Id.*

310. *Id.* at 148.

311. *Id.* at ch. 7 ("Progressivism Arrives").

With the development of these ideas came a new urban progressivism.³¹² Utility regulation increased; taxes were assessed; the secret ballot as well as child and female protective legislation was enacted.³¹³ Women began to exercise political influence.³¹⁴ Smooth administration in corporations and in government, “a frictionless bureaucracy,”³¹⁵ became the aspiration.³¹⁶ The world became modern and part of this modernity was the inevitable need to have one, agreed-upon, easily understood mode for telling time.³¹⁷

As the century turned, change was the watchword.

Close to the center of each theory of change lay the problem of society’s cohesion. What held it together as it moved? The original classical theory answered that cohesion came as a by-product of the natural laws. Entrepreneurial genius, self-interest, and habit combined to integrate any society that was abiding by fundamental principles. Yet in the face of actual conflict, its advocates could only threaten greater wreckage as an incentive to unite. Nothing guaranteed cohesion. A society could always commit suicide, it seemed, if its members chose.³¹⁸

And if ever one needed an example of such breakdown of cohesion, such societal suicide, one need not look farther than World War I,³¹⁹ for

312. *Id.*

313. For comprehensive histories of the legislative and administrative changes that took place in American society during the Progressive era, see MORTON KELLER, *REGULATING A NEW ECONOMY: PUBLIC POLICY AND ECONOMIC CHANGE IN AMERICA, 1900-1933* (1990) and MORTON KELLER, *REGULATING A NEW SOCIETY: PUBLIC POLICY AND SOCIAL CHANGE IN AMERICA, 1900-1933* (1994). See SKOWRONEK, *supra* note 42, at 248-84 for his description of the ascendancy of the Interstate Commerce Commission and its regulation of the railroads in the Progressive era.

314. EISENACH, *supra* note 41, at 9:

But whether possessed of the vote or not, beginning in the 1890s, politically active women and their male allies became leaders, publicists, and sponsors of an avalanche of local, state, and national legislation regarding child and female labor, compulsory school attendance, the age of female consent for sex and for marriage, food safety, housing conditions, and prostitution.

Id.

315. WIEBE, *supra* note 267, at 161.

316. *Id.* at 170. “Scientific government, the urban reformers believed, would bring opportunity, progress, order, and community.” *Id.* In corporations there were more administrative centralization and reliance on experts. *Id.* at 181.

317. *Id.* at 295. “As if to remind citizens of the modern day while they hurried about their affairs, Congress imposed standard time zones across the land.” *Id.*

318. *Id.* at 155.

319. “War created abnormalities in abundance. Sharp inflation, a new vocabulary, and a welter of government agencies each expressed part of a strangeness that filtered rapidly through American society in 1917. . . . The most powerful influence was a generalized sense of national crisis, one which millions predicated but could not define.” WIEBE, *supra* note 267, at 286. “World War I

Americans the most disillusioning, cataclysmic disruption of life since the Civil War.³²⁰ And for Europeans World War I was worse because it was fought on their home territory. As Stephen Kern describes it in his book, *The Culture of Time and Space 1880-1918*, the time perception of the average person changed radically with the War.³²¹ "So, in the larger world, the impact of the automobile and of all the accelerating technology was at least twofold—it speeded up the tempo of current existence and transformed the memory of years past, the stuff of everybody's identity, into something slow."³²²

The increased pace of daily life was not the only dramatic change. The very class system and the black and white mind-set of the Victorians was gone forever.³²³ In fact, the change had begun even earlier. "In sociological terms, the class system was changing, and the mighty railroad was the cause."³²⁴

It is against this picture of the late nineteenth/early twentieth centuries, that one must consider the court cases previously analyzed. While there were specific principles of law that could explain away each of those cases, those principles tend to trivialize the opinions. I suggest that these disputes reached the states' highest courts because a larger issue was involved: the determination of time. No longer a private matter of individual autonomy, time's reckoning was receiving inconsistent treatment by the courts who were struggling with this dilemma. Now it was up to the national legislature to take over.

was the apotheosis of the prewar sense of speed." KERN, *supra* note 22, at 299.

320. "The great war and its aftershocks shattered the politics of progressivism on both sides of the Atlantic." KLOPPENBERG, *supra* note 22, at 370. There is, however, no one, true, and indisputable interpretation of any event in the Progressive era. Not everyone was devastated by the war. "Indeed, for those more cosmopolitan Progressives in charge, the shortness of the war occasioned regret. . . . [T]o many Progressive intellectuals the war was proof that America and Americans were capable of higher national service and selfless national citizenship." EISENACH, *supra* note 41, at 247. If the war had only continued longer, more such selflessness could have been shown.

321. See, e.g., KERN, *supra* note 22, ch. 11, *The Cubist War*, at 288-312. Kern is not the only one who has noted the change of time discipline and perception. "An obsession before the war, efficiency acquired near-religious status once the war began." O'MALLEY, *supra* note 15, at 271.

322. KERN, *supra* note 22, at 129. This idea has been echoed by James Gleick: "We fool ourselves with false nostalgia—a nostalgia for what never was. Whenever we speed up the present, as a curious side effect we slow down the past." GLEICK, *supra* note 46, at 277. Clark Blaise offers a similar analysis: "We want more speed but we resent, or at least lament, the elimination of the slower and, arguably, finer, more graceful experiences they replace." BLAISE, *supra* note 16, at 145.

323. KERN, *supra* note 22, at 301. "World War I assaulted far more of the hierarchical structures of privilege than its participants had ever expected." *Id.*

324. BLAISE, *supra* note 16, at 142-43, discussing CHARLES DICKENS, *DOMBEY AND SON* (1848).

VI. CONGRESS FINALLY ACTS

The American chapter of the story of “legal” time reached a watershed when the United States Congress, on March 19, 1918, enacted legislation establishing both standard time and daylight saving time.³²⁵ A year later, daylight saving time was repealed,³²⁶ starting a cycle of enactment and repeal that would continue throughout the twentieth century.³²⁷

Standard time was established by dividing the continental United States into five time zones at the 75th, 90th, 105th, 120th, and 150th (including only Alaska) degrees of longitude west of Greenwich.³²⁸ The limits of each zone were to be defined by the Interstate Commerce Commission “having regard for the convenience of commerce. . . .”³²⁹ Hereafter the standard times would be called Eastern, Central, Mountain, Pacific, and Alaska.

Daylight saving time was to start on the last Sunday of March each year by advancing the standard time within each zone one hour and this condition was to last until the last Sunday of October when the clocks would be turned back one hour.³³⁰

The motivation for passage of this act mainly focused on the daylight saving part, even though it would be repealed a year later. Daylight saving time had been tried in Europe during World War I and was considered successful for fuel conservation and national efficiency. “The return in gardening, the fuel saving, and the general health improvement—those are the three main arguments”³³¹ advanced for daylight saving time. Gardening produced more food in wartime. The extra hour of light benefited health by making possible more outdoor recreation and benefited food production by making gardening possible in the evenings. Regarding fuel savings,

The various electric lighting companies of England . . . showed an average reduction of 23 percent in amount of light consumed.

325. See 40 Stat. 450-51 (1918).

326. See 41 Stat. 280 (1919).

327. See STEPHENS, *supra* note 28, at 17th unnumbered page (giving a brief history of daylight saving time in the United States). See also HEIDI G. YACKER, DAYLIGHT SAVING TIME, CRS REP. TO CONG. No. 98-99C (1998).

328. 40 Stat. 450-51, § 1 (1918).

329. 40 Stat. 450-51, § 1 (1918).

330. 40 Stat. 450-51, § 3 (1918).

331. *A Bill to Save Daylight and to Provide Standard Time for the United States: Hearings Before the Subcomm. of the Senate Comm. on Interstate Commerce*, S. 1854, 65th Cong. 5 (1917) (testimony of Mr. Matthew M. Marks of New York City, President of the National Daylight Saving Association).

The estimated saving in gas amounted to about 9 percent.

The estimated saving in coal consumption throughout the United Kingdom is 260,000 tons. There was also a considerable saving in the quantity of illuminating oil.³³²

In the United States, "[t]his conservation and this economy, in view of the fact that upward of \$350,000,000 worth of coal, oil, and gas are wasted annually, should commend themselves to those who believe in the elimination of unnecessary waste."³³³

It all sounded so good, so patriotic. Yet daylight saving time was repealed a year later.³³⁴ The standard time for each zone had been set at the center of each zone, and so there was at least a half hour discrepancy at the eastern and western boundaries of each zone from mean or solar time. When daylight saving time went into effect, this discrepancy increased to an hour and a half at the western edge of each zone.³³⁵ "It is this wide and unnatural discrepancy which has given rise to much of the opposition to daylight saving."³³⁶

There was "almost universal complaint from the coal miners, truck gardeners, and farmers in eastern Ohio, Indiana, and Illinois."³³⁷ From the coal miner's standpoint:

He finishes his work while the sun is still high and returns home, but must go to bed while it is still light in order that he may secure sufficient sleep for his next day's work. For men engaged in such dangerous and arduous work as coal mining Congress should legislate to lighten their burdens, and their comfort and necessities should more strongly appeal to us than the pleasure and convenience of others.³³⁸

For the farmers, daylight saving time, "disturb[ed] nature's plan for both man and beast."³³⁹ It affected milk processing and there was a problem with the dew on the ground in the morning which had to be burned off by the sun before farm laborers could go to work.³⁴⁰ There was thus a loss of two morning hours with daylight saving time instead

332. *Id.* at 6.

333. *Id.* at 23. (Daylight Saving: Report of R.L. Brunet to lighting committee of city council of Providence, R.I., March, 1917).

334. 41 Stat. 280 (1919).

335. H.R. REP. NO. 3854, at 1-2 (1919).

336. *Id.* at 2.

337. *Id.*

338. *Id.*

339. *Id.* at 3.

340. *Id.*

of one hour under solar time.³⁴¹ It was darkly warned that all this would “inevitably result in an increase in the cost of food.”³⁴²

As to all this, proponents of daylight saving urge that the farmers ought to be willing to adjust themselves to the new conditions notwithstanding the inconvenience and loss such conditions may entail. The farmer with greater reason might ask that the dwellers in cities should do this adjusting; that as his labor produces the food for both urban and rural populations and during this war for the armies and people of Europe, he is entitled, now that the war is over, to enjoy the normal conditions which existed since the birth of the Republic.³⁴³

In the same report, yet another problem was cited: “‘sitting up late’ is becoming a habit with thousands of children as well as of grown-ups,”³⁴⁴ and this was resulting in “the growing irritability of children and to a reduced efficiency in school work. . . .”³⁴⁵ To the twenty-first century mind, this borders on paternalism, but, in fact, a bill to repeal the daylight saving provision was passed by Congress on August 20, 1919.³⁴⁶ It was then vetoed by President Wilson and subsequently passed over the veto.³⁴⁷ National daylight saving time ended on the last Sunday in October 1919.³⁴⁸

But, in fact, it did not end. Rather, it was the beginning of a tug of war that would continue for most of the twentieth century with passage and repeal of local ordinances, state legislation, and finally additional federal daylight saving time law.³⁴⁹ But that saga deserves its own

341. *Id.*

342. *Id.*

343. *Id.* at 2-3.

344. *Id.* at 4.

345. *Id.*

346. 41 Stat. 280 (1919).

347. STEPHENS, *supra* note 28, at 19th unnumbered page.

348. 41 Stat. 280 (1919). *See also* U.S. DEPT. OF TRANSPORTATION, STANDARD TIME IN THE UNITED STATES: A HISTORY OF STANDARD AND DAYLIGHT SAVING TIME IN THE UNITED STATES AND AN ANALYSIS OF RELATED LAWS 4 (1970).

349. The major post-World War I, twentieth century daylight saving time laws in the United States include: Amendment to the Federal Standard Time Act, 41 Stat. 1446 (March 4, 1921) (current version at 15 U.S.C. § 265); War Time Act, 56 Stat. 9 (January 20, 1942) (current version at 15 U.S.C. § 261); Amendment to the War Time Act, 59 Stat. 537 (September 25, 1945) (current version at 15 U.S.C. § 261); District of Columbia Daylight Saving Time Act, 63 Stat. 29 (March 31, 1949) (repealed in 1949); An Act to Promote the Observance of a Uniform System of Time Throughout the United States, 80 Stat. 107 (April 13, 1966) (current version at 15 U.S.C. § 260, 260a); The Uniform Time Act Amendment, 86 Stat. 116 (March 30, 1972) (current version at 15 U.S.C. § 260a); Emergency Daylight Saving Time Energy Conservation Act of 1973, 87 Stat. 707 (December 15, 1973) (current version at 15 U.S.C. § 260a); Emergency Daylight Saving Time Energy Conservation Act of 1974, 88 Stat. 1209 (October 5, 1974) (current version at 15 U.S.C. §

separate telling.

In terms of the Legal Process Theory described earlier, the 1918 act was the culmination of the legal process, with a federal agency taking over the regulation of time determination in the United States. In terms of the history of Progressivism, and time's small role in that complex, if not impenetrable, history, social cohesion demanded that everyone living their lockstep lives in the increasingly urbanized America of the early twentieth century must tell time the same way. After a period of relative weakness for the legislative branch where the judiciary tended to step in and take charge of such matters, or at least tried to do so, Congress came into its own during World War I and passed the legislation mandating the use of standard time. Legal and historical interpretations aside, emotion, psychology, and personal philosophy have continued to play a large part in the way people think about time and its determination, even into the twenty-first century.

Michael O'Malley has offered some thoughts on the dynamics of the dispute. "Some farmers experienced genuine economic hardship as a result of daylight saving, and many more suffered serious inconvenience. But others resented having the arbitrary strictures of machine time imposed on their lives."³⁵⁰ There was a genuine rural versus urban, working class versus leisure class conflict operating, and it focused on the game of golf: "As a thoroughly non-productive, silly game played on the coiffed and manicured surface of perfectly good land, golf symbolized the utter decadence that underlay the daylight saving movement. The enemies of daylight saving scorned golf, again and again, as the wasteful indulgence of a parasitical class."³⁵¹

VII. CONCLUSION

Knowing the correct time is as important to the well-being of modern people as any prerogative outlined in the Bill of Rights. If one cannot determine the time with certainty, one cannot be a part of the modern world. The truth of these statements is underscored by the fact

260a); Fire Prevention and Control Authorizations Act of 1986, 100 Stat. 764 (July 8, 1986) (current version at 15 U.S.C. §§ 260a, 2216f); Establishment of a Standard Time Zone for Guam and the Commonwealth of the Northern Mariana Islands Act of 2000, 114 Stat. 2811 (December 23, 2000) (current version at 15 U.S.C. §§ 261, 263, 267).

350. O'MALLEY, *supra* note 15, at 281.

351. *Id.* at 285. Golf was still an issue in 2001! Morton Marcus, an Indiana University economist, discussing the resistance to daylight saving in Indiana "said he thought the daylight saving time push was 'largely driven by the desire to play golf at night.'" See Belluck, *supra* note 48, at A1.

that everyone takes time determination for granted. At least it is taken for granted until someone in authority talks about changing it.

It is axiomatic that we live by the law because it is more peaceful, predictable and productive than living in a lawless state would be. Determining the time is one of those societal rules that can be lawfully regulated and should be reasonably acceptable to all citizens. Yet if this article has shown anything, it has shown that establishing a standard time adhered to by all turned out to be both an enormously complex process and one that is still evolving.

Time does not simply regulate our activities. The awareness of time has gotten inside our minds and our souls and is a part of our very self-identification. That makes it far less susceptible to standardized definition. Looking at the sun in a previous era reminded us of our puniness and the triviality of our concerns. The sun was “up there” where God is believed to reside. So, telling the time by the sun was necessarily a religious experience, certainly a deeply personal one. Looking at a clock on the wall, or the watch on one’s wrist, or the digital readout in the lower corner of one’s computer screen just does not compare. No longer a private matter, time determination has officially become public law-bound and regulated. Unofficially, time determination remains mysterious and elusive.

